Spring 2020

Digital Distractions: Using Action Research to Explore Students' Behaviors, Motivations, and Perceptions of Cyberslacking in a Suburban High School

Kristy Self Rykard

DIGITAL DISTRACTIONS: USING ACTION RESEARCH TO EXPLORE STUDENTS' BEHAVIORS, MOTIVATIONS, AND PERCEPTIONS OF CYBERSLACKING IN A SUBURBAN HIGH SCHOOL

by

Kristy Self Rykard

Bachelor of Science
Appalachian State University, 2000

Master of Education
Columbia College, 2003

Submitted in Partial Fulfillment of the Requirements

For the Degree of Doctor of Education in

Curriculum and Instruction

College of Education

University of South Carolina

2020

Accepted by:

Michael M. Grant, Major Professor

Fatih Ari, Committee Member

Ismahan Arslan-Ari, Committee Member

Anna C. Clifford, Committee Member

Cheryl L. Addy, Vice Provost and Dean of the Graduate School

DEDICATION

This dissertation is dedicated to four people who have supported me unconditionally since the day they met me.

To my parents, Gary and Judy Self: Your unwavering love and dedication to my success has made me who I am. You were always proud, always encouraging, and you always gave me the freedom to find my own path. God handpicked you for me, and I am eternally grateful.

To my sister, Janice Jones: You were more than a sister. You were my "laughter medicine," my guinea pig, my reviewer, my listening ear, my crying shoulder, my champion, and my best friend. You were integral to this journey, beside me through so many of the steps, and I know you are here at the end in spirit. I love and miss you. Always.

To my husband, Bobby Rykard: You went through every moment of this process with me — the stress, the tears, the late nights, the long weekends, the excitement, the relief, the pride. This accomplishment is as much yours as it is mine.

ACKNOWLEDGMENTS

I have been fortunate to have a team of incredible people who were essential in making this journey possible. Lori Latham, Diane Lawson, and Mary O'Grady-Jones have been invaluable to me as student colleagues, writing group members, and friends. Their feedback on my work, senses of humor, and encouragement towards my goal sustained me through this process. Tiffany Miller donated several hours of her time to help perfect my observation protocol and conduct observations for my study. Her professional advice and participation in this endeavor were vital to making this research a success. I would like to acknowledge my students from the 2018-2019 school year. Their collaboration, good nature, and honesty were integral to the success of this study. I would also like to thank my dissertation committee members, Dr. Fatih Ari, Dr. Ismahan Arslan-Ari, and Dr. Anna Clifford, for their support, feedback, and encouragement over the past three and a half years, as I moved this study from inception to completion.

Finally, I thank Dr. Michael Grant, my advisor and dissertation committee chairperson. Without his guidance, patience, and calm practicality, none of this would have been possible. I am grateful for his professional wisdom and kind encouragement. I appreciate the innumerable hours he spent helping me improve my work — editing, offering suggestions for revision, sharing sources, and talking me through various pieces of the process. I have grown so much as a researcher, an educator, and a learner through my collaboration with Dr. Grant, and these words cannot express enough gratitude to encompass all that he has done for me.

ABSTRACT

Digital technology saturates the personal and educational lives of high school students who are accustomed to continuous connectivity; consequently, students are often distracted by technology in the classroom. When students use technology for non-class related activities during class time, this behavior is commonly known as cyberslacking. The purpose of this action research was to describe students' understanding of cyberslacking and its academic and social effects in my English 3 Honors and Film Studies classes at Carraway High School. The research took place in the spring semester of 2019 with 59 students in Grades 10 through 12 who were enrolled in my English 3 Honors and Film Studies courses. Both courses integrated technology fully into most aspects of students' learning, and all students had smartphones and school-issued Apple iPads. In order to describe students' behaviors, motivations, and perceptions of cyberslacking, three data collection methods were used: observations, surveys, and focus group interviews. Findings showed that students cyberslacked regularly in class, using personal and school-issued devices. Their cyberslacking activities included texting, social media, watching videos, gaming, listening to music, and other types of entertainment. The duration of their cyberslacking sessions depended upon the selected cyberslacking activity, as well as the immediate events happening in class. Students indicated they cyberslacked because of habit, stress, anxiety, a need for connection, their perceived knowledge and comfort level in a course, lack of interest in a subject, and access to devices. However, they also expressed that teachers' rules, respect for teachers, parental

boundaries, and their own personal desire to be successful in school often motivated them *not* to cyberslack. Furthermore, some students perceived cyberslacking as negative, believing it had a detrimental effect on their academics and personal connections with teachers; others perceived cyberslacking as a positive influence, providing stress relief and brain breaks. This study offered valuable insights into possible root causes of students' cyberslacking behaviors, including nomophobia, metacognition, perceived multitasking ability, student-teacher relationships, short attention spans, the need for instant gratification, and ability to self-regulate. Recommendations for teachers, students, school, district, and parents are discussed, as well as personal implications and implications for future research.

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CHAPTER 1

INTRODUCTION

National Context

With new technology emerging daily, digital computing devices are ubiquitous in the lives of students in the new millennium. In 2016, 71% of individuals over the age of three used the Internet regularly (U.S. Department of Education, 2016). In addition, 96% of students owned a smartphone, 93% owned a laptop, 57% owned a tablet, and 29% owned wearable technology, such as fitness trackers, headsets, and smartwatches (Brooks, 2016). The students of today are constantly connected to the world through their fingertips, and, as a result, schools now have the responsibility to train students in ways that reflect how individuals learn, work, and live in the 21st century.

Today's students are "entrepreneurial, global thinkers, who are highly social, visual, and technological" (The New Media Consortium, 2016, p. 10). Therefore, many school districts are rethinking how their schools work by more fully implementing educational technology initiatives. The majority of elementary, middle, and high schools in America offer students some level of access to computing devices and encourage teachers to facilitate lessons that incorporate the use of such technology. According to a national survey of students in grades 4 through 12 conducted by Pearson Education (2015), 78% of elementary school students, 69% of middle school students, and 49% of high school students report using tablets in the classroom. In addition, about 20% of schools offer a one-to-one ratio of computing devices to students (Pearson Education,

2015), and this number is expected to increase in the coming years (The New Media Consortium, 2016).

As digital technology saturation persists in the personal and educational lives of students, this familiarity and reliance on technology can negatively influence students' expectations of its use during class time. Students are accustomed to continuous connectivity and have formed habits of, and in some cases addiction to, constant texting, interacting on social media, participating in social gaming, and having the internet readily available for surfing or locating information at any given moment. Consequently, students are often distracted by technology in the classroom, using it to maintain this attachment to the outside world (Aagaard, 2015; Chen & Donmez, 2016; Olufadi, 2015).

When students use technology for non-class related activities during class time, this behavior is commonly known as cyberslacking (Baturay & Toker, 2015; Gerow, Galluch, & Thatcher, 2010; Taneja, Fiore, & Fischer, 2015; Yılmaz, Yılmaz, Öztürk, Sezer, & Karademir, 2015). Cyberslacking is prevalent among students (Currie, 2015; Jackson, 2013; Judd & Kennedy, 2011; Kraushaar & Novak, 2010; Portanova, 2014; Ragan, Jennings, Massey, & Doolittle, 2014). Because of the easy access to personal or school-issued computing devices, students are drawn to use this technology during class time in ways that distract them from the lesson at hand. They engage in behaviors such as texting, interacting on social media, playing games, taking pictures, watching videos, talking on the phone, shopping, and surfing the Internet. As such, several studies have found that students are not as focused on learning as they should be (Aagaard, 2015; Currie, 2015; Jackson, 2013; Olufadi, 2015; Taneja et al., 2015; Yılmaz et al., 2015).

This poses a problem in classrooms because the decrease in student engagement may lead to a decline in achievement.

Local Context

Carraway High School (CHS) is a public high school in Middle View School District (a pseudonym) in the southeastern US. State and school district data references have been removed to protect the anonymity of participants. In 2017 there were 1,884 students in grades 9-12 at CHS, and the school employed 130 teachers. According to Middle View School District's student management system, approximately 66.6% percent of students enrolled at CHS are white, 20.6% are African American, 7.8% are Hispanic, 4.2% are biracial, 0.17% are Native American, 0.06%, are Pacific Islander. The school has a 45.5% poverty rate. Also, CHS is the recipient of several awards for academic achievement, family-friendly school environment, customer service, and closing the achievement gap. The school's state report card average has consistently been "excellent" for the past five years.

Middle View School District is a technology leader in our state. Ninety-one to 100% of classrooms have wireless access, and there were 2,214 devices available for student use at the time of this study. In addition, CHS has been a part of Middle View School District's Personal Mobile Computing Initiative since the 2011-2012 school year. This program provides each student with the opportunity to be issued a district-owned iPad, which they can use for both academic and personal activities.

According to a 2016 Middle View School District survey regarding technology uses and perceptions, 83% of teachers at CHS felt that technology is essential to student success in school, and 93% believed that technology is crucial to success in the future

workplace. As such, the same survey showed that 63% of CHS teachers incorporated technology at least on a weekly basis in their classrooms. Because students have immediate access to school issued computing devices in addition to their own devices, such as smartphones, and because their teachers are facilitating lessons in which students are utilizing these devices during class, cyberslacking is a common form of off-task behavior at CHS.

In my English 3 Honors and Film Studies courses at CHS, cyberslacking has become extremely widespread among students. In the Fall 2018 semester, my English 3 Honors courses consisted of 33 sophomores, 16 juniors, and one senior, and my Film Studies class consisted of 20 seniors, three juniors, and two sophomores. All of my students had been issued an iPad by the district, and they brought it to class daily. In both English 3 Honors and Film Studies, I incorporated a blended learning approach, and workflow was almost paperless. Consequently, my students were engaged with their devices daily for the majority of the class period.

Because of the high level of digital integration in my courses, I have observed students taking advantage of the readily available connectivity this type of technological immersion has created by cyberslacking during class time. In addition, these behaviors have negative consequences for my students. They take longer to complete their work, they miss instruction, and they often submit work that is incomplete or lacks effort. At times, some students neglect to submit certain assignments at all. It is my opinion that these challenges are impacted by students' tendencies to cyberslack during class time.

Middle View School District recognizes that there is a problem with cyberslacking in our schools since the Personal Mobile Computing Initiative was

established. To combat this issue, the district has partnered with Apple, Inc. to install Apple Classroom onto all student and teacher iPads. Using this application, teachers can lock students' iPads into a specific program in order to guide the class through a lesson, see the screen of every student to monitor their progress and activities, and even turn every iPad screen off to encourage students to pay attention to instruction (Apple educational products, 2017). Having Apple Classroom enables teachers to have more control over the activities in which students can engage on their school-issued devices.

However, Apple Classroom is not perfect. Teachers have found it to be less than useful when students need to use more than one application to complete an assignment, as locking student iPads only allows access to one program at a time. In addition, technology malfunctions on occasion, and some students' iPads are not accessible through Apple Classroom. Also, students have discovered that the use of Apple Classroom requires that their Bluetooth connections be turned on, so many students are circumventing the controls by turning their Bluetooth functions off. Finally, Apple Classroom only offers teachers control over district owned devices. Students still have personal devices, such as smartphones, with which they continue to engage in cyberslacking. Consequently, while Apple Classroom has mitigated some of the cyberslacking problem, the application has not eliminated it. Even with this district strategy, cyberslacking is still a persistent issue in my English 3 Honors and Film Studies classes.

Statement of the Problem

Students in my English 3 Honors and Film Studies classes regularly engage in cyberslacking—off-task behaviors related to technology, such as texting, gaming, and

social media interaction— during instruction, which distracts them from the learning that should be taking place. Since Middle View School District implemented a one-to-one ratio of iPads to students, distractions have increased, given that such omnipresent technology dramatically amplifies the ease of diversion. Although studies show that these types of behaviors can have negative academic consequences for students (Hassoun, 2014; Kuznekoff & Titsworth, 2013), and many learners in my classes have experienced these damaging outcomes personally, students continue to engage in this behavior.

Purpose Statement

The purpose of this action research was to describe students' understanding of cyberslacking and its academic and social effects in my English 3 Honors and Films Studies classes at Carraway High School in order to make recommendations about ways in which teachers and other stakeholders should approach technology use in the classroom.

Research Questions

The following research questions are proposed for this study:

1. How frequently do students engage in cyberslacking during class?
2. In what kinds of cyberslacking activities do students engage during class?
3. What do students feel leads them to cyberslack?
4. What are students' perceptions of cyberslacking and its academic and social effects?

Researcher Subjectivities and Positionality

There are several experiences that have formed my core values and beliefs about education. Although I am a teacher with twenty years of experience, I am first and foremost a life-long learner. I was the first person in my family, going back several generations, to graduate from college. Both of my parents dropped out of high school to get married in the 1960s. However, my mother and father were supportive and encouraging to me in my own education. In addition, while my father has never been a model student, he is intelligent and intuitive, especially when it comes to technology, so I grew up building computers, writing programs, piecing together all forms of digital devices, and being immersed in gaming systems and all the newest gadgets. Having a father who taught me to love technology and being a trailblazer in my family in the area of education shaped who I am as a teacher and learner.

My experiences with each of these aspects of my life have also molded my attitude and biases about educational technology, teaching, and learning. As someone who values education and respects technology's place in learning, it is frustrating to see my students feeling less than enthusiastic about their education. I have a hard time understanding the motivation to take for granted and misuse the opportunity to learn with the most up-to-date technology that Middle View School District provides. My students' tendencies toward cyberslacking leads me to worry that they do not place a high enough significance on their education, and my sensitivity about this issue is what has guided me to research my students' perceptions of their own cyberslacking habits.

As a researcher, I tend to identify with elements of more than one paradigm. I believe in "careful observation and measurement" and that "data, evidence, and rational

considerations shape knowledge" (Creswell, 2014, p. 36-37), which are postpositivist views and are typically supported by quantitative methods of research. However, I also subscribe to the conviction that "individuals develop subjective meanings of their experiences" (Creswell, 2014, p. 37) and that these meanings also influence the results of research. This is more of a constructivist worldview and generally coincides with a qualitative research approach. In addition, I also accept the transformative notion that inquiry can be "intertwined with politics and a political change agenda to confront social oppression" (Creswell, 2014, p. 38) at times. Pragmatism converges several schools of thought and allows a researcher to employ various aspects of several paradigms in order to select the best approach based on the given subject of study. Pragmatists are focused on "applications—what works—and solutions to problems" (Creswell, 2014, p. 39), rather than being "prisoners of a particular [research] method or technique" (Robson, 1993, p. 291). This lends itself well to mixed methods research, which will be central to my study. Therefore, after much self-reflection, I have determined that, in relation to educational research, pragmatism most closely aligns with my personal worldview and will be the most effective paradigm from which to approach my research.

For my research, I will take an "insider in collaboration with other insiders" (Herr & Anderson, 2005, p. 31) approach in order to "have a greater impact… [and] also [be] more democratic" (Herr & Anderson, 2005, p. 36). I want to collaborate with my students to discover their habits, motivations, and beliefs about cyberslacking. As a teacher, I realize that I am not a total insider with my students. There are several differences among us that place us in various societal positions, including (but certainly not limited to) age, race, gender, religious beliefs, values, sexual orientation, and socio-

economic status. In most of these categories, I will be an insider among some of my students and an outsider with others. Additionally, because our relationship is teacher-student, there is a definite power differential that defines our interactions. However, I have always taken the stance that it is not *my* classroom; it is *our* classroom. As stakeholders in the learning that is happening, students should have a voice and power over their environment and education. Therefore, my goal with my research is to work together with them to study the cyberslacking issue in our classroom.

It will be difficult to negotiate my biases during my research. For example, as a teacher who wants her students to focus on the lesson at hand, I have a preconceived subjectivity against cyberslacking. It will be essential that I set aside judgment and study students' habits objectively. This practice of bracketing is necessary for me to view my students' practices and perceptions with a new perspective (Moustakas, 1994). Also, since a significant part of my data will be gathered via surveys and/or interviews, it is crucial that I provide all students with the opportunity to have a safe place in which to be honest about their cyberslacking habits and opinions. It would limit the value of my research if students were reluctant to share their honest experiences and perceptions because of their fear of how I would judge them. Therefore, I must be conscious of my natural bias against cyberslacking so that it does not affect my research.

Definition of Terms

Apple Classroom: Apple Classroom is an application for use on the iPad that allows teachers to guide learning, share and receive work, and manage student devices. Teachers can create classes, add students, view students' screens, share student work with the class, launch and lock apps with remote control, and reset forgotten passwords. The program works by connecting all student iPads to the teacher iPad using Bluetooth capabilities (Apple educational products, 2017).

Blended learning: Blended learning is an educational teaching strategy that "combines traditional face-to-face classroom instruction with online learning" (Educause, 2017).

Classroom environment: Classroom environment includes "the physical setting, the psychological environment created through social contexts, and numerous instructional components related to teacher characteristics and behaviors" (Miller & Cunningham, 2011).

Cyberslacking: Cyberslacking is the action of using technology during class time for non-class related purposes, such as texting, playing games, surfing the internet, using social media, taking pictures, watching movies or videos, shopping, etc. (Gerow et al., 2010).

Digital/personal computing devices: Digital or personal computing devices are machines that are specifically made for performing tasks digitally. For example, personal computers, laptops, tablets, smartphones, and smartwatches are all considered digital/personal computing devices.

Grades: For the purposes of this study, grades are defined as the weighted average of students' scores received on formative and summative assessments. At CHS, students' grades are weighted as follows: formative assessments contribute 15% and summative assessments contribute 85% of a student's overall grade in a course.

Metacognition: "Knowing about one's own cognitions" (Shimamura, 1994). Monitoring one's abilities and formulating plans to heighten performance (Dunlosky & Thiede, 1998).

Multitasking: Giving several tasks continuous partial attention (Chatham, 2015; Friedman, 2006); engaging in multiple activities or with different media at the same time (Bellur, Nowak, & Hull, 2015).

Nomophobia: The discomfort and anxiety caused by the lack of availability of a mobile phone (Wang et al. 2014). It can also include the fear of having no access to information or losing the ability to communicate with others (King, Valencia, Silver, Sancassiani, Machado, & Nardi, 2014).

Self-regulation: A student's ability to adjust his or her behaviors to meet changing environmental conditions for the purpose of accomplishing certain goals (Kaur, Saini, & Vig, 2018).

Technology integration: Effective and efficient classroom use of technology to enhance student learning in ways that combine the goals of the curriculum and technology into a "harmonious whole" (Dockstader, 1999, p. 73). Teachers and students seamlessly employ technology daily in a variety of ways, using diverse technological tools to collaborate, complete

assignments, communicate findings, conduct research, create projects, and provide and receive feedback.

Workflow: Workflow refers to the passing of work between teacher and student. This includes the distribution of assignments, texts, and other instructional materials. In addition, workflow involves the completion and submission of tasks by the student, as well as the grading, feedback, and return of the work from the teacher.

CHAPTER 2

LITERATURE REVIEW

Introduction

The purpose of this action research will be to describe students' understanding of cyberslacking and its academic and social effects in my English 3 Honors and Films Studies classes at Carraway High School. The main focus of this study will be the following four research questions: (1) How frequently do students engage in cyberslacking during class? (2) In what kinds of cyberslacking activities do students engage during class? (3) What do students feel leads them to cyberslack? (4) What are students' perceptions of cyberslacking and its academic and social effects?

Based on these research questions, I utilized several keywords and combinations to elicit a range of results. The six main terms I searched were cyberslacking (or cyber-slacking or cyberloafing), multitasking (or multi-tasking), social media, personal computing devices, self-regulation, and technology. I paired each of these keywords with the following variables, incorporating Boolean operators to connect the terms and bring forth the most focused literature: achievement, performance, grades, motivation, literacy, education, perception, classroom, distraction, 1:1 schools, school, and addiction. In addition to these keyword searches, I also added limits to my queries. I mainly focused on finding research published within the last five years, and I predominantly looked for primary sources of original research that were published in peer-reviewed journals. I used the above method to search for literature contained in several databases, including

Academic Search Complete, *Education Source*, *ERIC (EBSCO)*, *ERIC (ProQuest)*, and *JSTOR*. Furthermore, I discovered other texts by mining the resources of the articles I found using the above search parameters, limits, and databases. Finally, some sources were recommended to me by my classmates or professors, and others I discovered by conducting peer reviews of my classmates' writing. I used Mendeley Desktop to organize the literature featured in my review.

The review of this literature is organized into two sections. The first section discusses technology integration and multitasking. The second section takes an in-depth look at the phenomenon of cyberslacking in the classroom. In this chapter, I will examine each of these two areas and how they relate to student practices, motivations, and perceptions of cyberslacking.

Technology Integration and Multitasking

There are several factors that have influenced the introduction of off-task digital behaviors to the educational setting. These include (a) technology integration in the classroom, (b) perceptions of technology integration, and (c) multitasking in class.

Technology Integration in the Classroom

In the twenty-first century, businesses and organizations are specifically interested in employing individuals who are proficient in various technologies (Alic, 2017). In addition, life in general often necessitates a basic knowledge of technology, as it is becoming increasingly more common to perform everyday tasks using technology. For example, the vast majority of individuals have smart phones (Smith, 2017) and regularly conduct business such as banking, communication, and shopping online. Therefore, comfort with and proficiency in the use of technology has become an obligatory focus of

the educational system in order to prepare students for the workplace and life after school.

Two points of view have emerged regarding technology integration in classrooms. One is the positive perspective in which proponents have shown that technology integration has been constructive for learning and in which stakeholders are in favor of such integration. On the other hand, there are some researchers who assert that technology integration either has no effect or a negative outcome on learning and in which educators and students perceive technology as a deleterious aspect of the educational system. This section will focus on the following aspects of these two sides: (a) positive factors leading to technology integration in the classroom, (b) positive perceptions of technology integration in the classroom, (c) negative issues arising as a result of technology integration in the classroom, and (d) negative perceptions of technology integration in the classroom.

Positive factors leading to technology integration in the classroom. Some researchers have found that technology integration has positive effects on academic performance. For example, Çakiroğlu (2014) found that high school math students who used virtual manipulatives specifically designed to teach quadratic equations and polynomials outperformed students who learned the same information through a textbook, teacher notes, and internet research. In addition, technology can improve academic performance through differentiation. In a study conducted with high school biology students, Haelermans, Ghysels, and Prince (2015) discovered that students who were placed in differentiated digital tracks based on their performance on a pretest about metabolism, respiration, blood circulation, and individual health experienced more of an

improvement from pretest to posttest than those who did not receive the digital differentiation. These studies illustrate the type of affirmative results that tend to influence educators in the integration of technology.

Technology integration has also been shown to improve collaboration. Andert and Alexakis (2015) found that students utilized opportunities to develop vicarious and serendipitous learning through online collaboration using student-selected resources such as Google Drive, ooVoo, Skype, GroupMe, and Second Life in an online course about teams and group processes; they suggest that this effect would have been limited if students were not offered the chance work together through these digital collaborative tools. Davidson (2015) also observed enhanced collaboration when she introduced a wiki project in a university financial accounting course; she reported that this type of digital cooperation provided abundant access to group work, equalized interaction for dominant versus timid students, and increased individual contributions because of the transparency for performers versus non-performers. Matthews and Johnson's (2017) students also experienced effective collaboration as a result of online tools such as Google Docs, Google Hangouts, YouTube, iMovie, email, group texting, telephone, and communication via Facebook tools. They valued collaborating with technology and saw it as an important tool for working with others in their future career. As a result of outcomes such as these, digital teamwork is a common occurrence in twenty-first century classrooms.

Classroom environment includes, among other elements, "the psychological environment created through social contexts" (Miller & Cunningham, 2011). Researchers have reported that technology integration has a positive effective on this

aspect of education and the emotional response from students. In a review of 46 empirical studies of technology integration in schools where each student had a digital device, Harper and Milman (2016) found that many studies illustrated improved learning experiences. More specifically, Flower (2014) observed elementary students whose individualized educational programs (IEP) indicated difficulty in remaining on task. When these students used an iPad to practice reading and math skills, their time on task increased as opposed to when they were under typical work conditions, indicating that the iPad was a more engaging form of learning. In addition, Ares, Stroup, and Schademan (2009) assert that the integration of technology facilitates student agency and gives students power over their learning, offering innovative ways for them to communicate about ideas. These sorts of encouraging conclusions have led to an increase in the use of technology in education.

Positive perceptions of technology integration in the classroom. Some teachers hold positive perceptions of technology in the classroom because they feel that it enhances both teaching and learning activities. Teachers believe technology enhances tasks for both the teacher and the student, specifically in the positive impact it can have on access to information (McRae, 2016; O'Bannon & Thomas, 2015; Strother, 2013), communication, inquiry-based learning, and differentiation (McRae, 2016). In addition, educators appreciate the integration of technology due to student accountability and the ability to customize learning for their students (Strother, 2013). Many preservice teachers also cite the use of educational apps as a benefit to using technology in class (O'Bannon & Thomas, 2015). These findings suggest the positive feelings educators

have towards technology are based on opportunities to make teaching and learning more effective and streamlined.

In addition to enhancing instruction and learning, many teachers also note that technology use in class increases student motivation and engagement. In a survey of 91 Iranian English as a Foreign Language (EFL) university instructors and the five subsequent focus interviews, Ashrafzadeh and Sayadian (2015) found that teachers felt technology motivated and engaged their EFL students because it helped them achieve their learning objectives and facilitated exposure to more authentic English language experiences. Educational leaders who were interviewed by Preston, Wiebe, Gabriel, McAuley, Campbell, and MacDonald (2015) also indicated that one overarching benefit of technology was student motivation and active learning. Likewise, in the previously mentioned study by Flower (2014), teachers perceived iPads as positive for student engagement after observing how much students' time on task increased after the introduction of the devices. In another example, Boyce, Mishra, Halverson, and Thomas (2014) examined the effect of using mobile technologies to study environmental science on a nature hike with underrepresented fifth grade students. Their results showed that although students in this group were often dispassionate about science, the integration of technology in the lesson increased student interest. Student motivation seems to play a significant role in the positive perceptions many teachers possess about technology integration in the classroom.

In addition to teachers, students have also shown positive perceptions of the integration of technology in the classroom. For example, Varier, Dumke, Abrams, Conklin, Barnes and Hoover (2017) conducted focus groups with students in grades 3-4,

7-9, and 11 to determine their perceptions of technology integration. The researchers discovered that students felt they were more efficient and engaged in their school work. Students enjoyed being able to have access to their work from any location through Google Docs and felt productive when they were able to complete assignments easily during free time through this access. In addition, students expressed a feeling of increased self-direction, as they were able to use their devices to solve problems and learn on their own. In addition, Humble-Thaden (2011) surveyed the opinions of 166 new college freshmen about the use of cell phones in their high school classrooms for learning; the results showed that the majority of students believed that cell phones could be an effective learning tool if initiated by students. Also, in a survey of 237 students at Bermuda College, a majority of students confirmed that technology played an essential role in enriching their learning experience and that the integration of technology in education could be crucial in improving education in the future (De Shields, 2016). Furthermore, Williamson and Muckle (2018) reported that in their survey of 356 nursing school undergraduates, 78-91% of participants agree that using technology in their studies is beneficial to them in school because it allows tasks to be accomplished quickly, improves and increases performance, enhances effectiveness, and makes it easier to do their work. Although typically educators' opinions of educational tools are more widely accepted as the determining factors in whether they incorporate the tools or not, a positive student perception is also integral to the continued success of technology integration in education.

Negative issues arising as the result of technology integration in the classroom. Although there are numerous studies above illustrating positive aspects of

technology integration in the classroom, there is also considerable opposing research that has resulted in very different findings. A few researchers have found that there is no significant difference at all in test scores between students who use technology to learn and those who do not (Ghattu, 2015; Jones, 2016). Some researchers have shown that technology actually has negative effects on learning. Selected digital activities, such as online discussions in the form of blogging with responses, seem as though they would encourage collaboration; however, they have been shown to do the opposite (Domalewki, 2014). This could be due to the fact that students feel disconnected from each other when participating in asynchronous discussions. In fact, the use of technology sometimes even instigates a decline in academic achievement (Perry & Steck, 2015; Preston et al., 2015), which may be attributed to easy access to distracting activities. Furthermore, dependence on and frequent use of technology has been shown to have a negative effect on literacy skills (Cingel & Sundar, 2012; De Jonge & Kemp, 2012), possibly a result of devices that autocorrect spelling, grammar, punctuation, or capitalization or the regular use of texting abbreviations. It is important to consider these discouraging findings in addition to the positive results in order to see the whole picture of technology integration.

The "numerous instructional components related to teacher characteristics and behaviors" (Miller & Cunningham, 2011) are an important aspect of classroom environment. This element of education is also often negatively affected by the integration of technology. For example, there is a steep learning curve for teachers with the introduction of new technology, which is often not addressed with professional development (Drayton, Falk, Stroud, Hobbs, & Hammerman, 2010; Harper & Milman, 2016). Lack of appropriate training for novel technologies could lead to less effective

instruction and lesson design. In addition, while there are positive effects of technology on student engagement, some researchers have shown the that the incorporation of technology actually decreases student interest in the lesson (Harper & Milman, 2016; Perry & Steck). This could be connected to the plethora of off-task activities readily available to students when they are using technology in the classroom (Harper & Milman, 2016; Preston et al., 2015). This factor may also influence the decline in academic achievement mentioned previously.

Additionally, some initial positive effects of technology may be due to something similar to the Hawthorne effect (French, 1953). This term is derived from a series of experiments conducted in the Hawthorne Works of the Western Electric Company in Chicago between 1927 and 1933 in which workers increased productivity due to the special attention they were receiving from researchers (Chiesa & Hobbs, 2008). It is possible that some studies concerning technology illustrate positive results because the participants are being observed, and this knowledge encourages students to be more attentive to their studies, thus producing a semblance of increased motivation and engagement. In addition, Clark (1983) argued that the novelty of an instructional method or new type of media may account for increases in student learning. For example, Burke and James (2008) found that students who thought of PowerPoint as a novel stimulus for instruction reported a higher degree of learning than students who thought of PowerPoint as less innovative. Therefore, the positive effects and perceptions of technology found in some studies may be due to the freshness of certain devices or technologies. The novelty effect diminishes as students become more accustomed to new technology, resulting in decreased engagement and motivation (Keller & Suzuki, 2004).

Negative perceptions of technology integration in the classroom. Even though educators display positive perceptions of technology integration, they also hold some feelings on the opposite side, as well. Many teachers feel they lack the skills to effectively use and moderate technology in class. For example, some instructors feel they have insufficient technology literacy, and they have substantial personal concerns about technology integration (Ashrafzadeh & Sayadian, 2015). Teachers revealed to Strother (2013) they lack knowledge and experience to effectively use technology to enhance learning. For example, some teachers felt that their students knew more about technology than they did, leading to discomfort in using it in their classroom. In addition, more teachers her Strother's study felt they would have expanded their use of technology if they received more training. Moreover, teachers indicate they are deficient in explicit strategies for overcoming problems caused by technology-induced distractions in their classrooms (Andersson, Hatakka, Grönlund, & Wiklund, 2014). If teachers feel unprepared to successfully utilize and monitor technology use, their insecurities may lead to less successful learning experiences for their students.

A major concern of teachers is that students often attempt to multitask with distracting, off-task behaviors while using technology (McRae, 2016). Teachers feel that connection to the internet offers temptations that distract students from instruction (Tasgold, 2013). As a result, educators perceive classroom management as being negatively impacted by the integration of technology when there is a 1:1 ratio of computing devices to students (Strother, 2013). Furthermore, teachers commonly cite digital distractions, such as social media, as contributing to students' risk of failing (Andersson et al., 2014; Junco, 2012; Junco & Cotten, 2012; Karpinski, Kirschner, Ozer,

Mellott, & Ochwo, 2013; Rosen, Carrier, & Cheever, 2013; Wood, Zivcakova, Gentile, Archer, De Pasquale, & Nosko, 2012). Lack of classroom management skills in relation to addressing off-task behaviors results in a negative opinion of technology in the classroom from the point of view of many teachers.

Students exhibit similar concerns about the distraction of technology in class. Students indicate they feel that tablets are more for entertainment than learning (Gokcearslan, 2017; Jones, 2016). In addition, students admit technology tempts them into off-task behaviors (Andersson et al., 2014; Thomas & Munoz, 2016), reporting games and social media as major diversions from class-related materials (Jones, 2016). In fact, some students do not even use their school issued devices because they distract them from their studies (Gokcearslan, 2017). The fact that students themselves acknowledge technology as enticing them toward off-task multitasking offers insight into the serious nature of this issue.

Findings regarding technology use in classrooms vary. While there are many researchers who illustrate the positive effects and perceptions of technology integration in the classroom, there are also numerous who show the opposite. Perhaps the discrepancy among the results may be due in part to research conducted at varied stages in the integration process. Research facilitated in the early stages, when technology is new and exciting, may result in positive outcomes in student engagement and achievement, classroom environment, and perceptions. Conversely, after technology has been a regular part of teachers' and students' lives for some time, and there has been time to experience it more fully, negative findings may be more common.

Multitasking in Class

This section will examine various aspects of multitasking. These include (a) the definition of multitasking, (b) the occurrence of multitasking in class, (c) the ability of individuals to multitask, and (d) the effects of multitasking on performance.

Multitasking definition. The definition of multitasking is the act of giving several tasks continuous partial attention (Chatham, 2015; Friedman, 2006), such as when a person is engaged with different media at the same time he/she is studying, working, or driving (Bellur et al., 2015). Most people multitask regularly in their daily lives. For example, one may drive, listen to music, and carry on a conversation with passengers in the car all at once. Multitasking is also a common occurrence in classrooms, such as when students simultaneously listen to music, chat with friends, and complete an assignment. Very often, students engage in not only various tasks but also with multiple media. This type of multitasking frequently involves being engaged with more than one digital task (Foehr, 2006). Examples include answering text messages while studying or scrolling through social media while listening to a class lecture.

Occurrence of multitasking in class. Student multitasking is a frequent event during most classes and study sessions. Judd (2013) conducted a study in which student computer sessions at an open-access university computer laboratory were logged; results showed that just over 70% of students were multitasking during their self-directed study time. In addition, McRae (2016) conducted a survey of 2,200 teachers in Alberta, Canada, which showed that 43% of teachers "frequently" and 33% of teachers "very frequently" observe students multitasking with digital technologies. Researchers have discovered that students participate in activities such as chatting, checking emails,

playing games, or watching movies during class time (Awwad, Ayesh, & Awwad, 2013). However, it seems that texting (Bellur et al., 2015; Currie, 2015; Junco, 2012; Junco & Cotten, 2012; Ravizza, Hambrick, & Fenn, 2014) and social media are some of the most common activities in multitasking (Andersson et al., 2014; Bellur et al., 2015; Currie, 2015; Jones, 2016; Judd, 2013; Ravizza et al., 2014). Based on these findings, students' attention is being divided during class and study time, which could possibly have impacts on their comprehension and academic performance.

Ability to multitask. There has been some research on the ability of various types of individuals to multitask. Although male students tend to multitask more than female students (Akbulut, Dönmez, & Dursun, 2017; Baturay & Toker, 2015; Judd & Kennedy, 2011; Yılmaz et al., 2015), females seem to be more skilled at multitasking than males (Judd & Kennedy, 2011). In addition, younger students are more inclined to multitask than older students (Judd & Kennedy, 2011). However, metacognitive awareness increases the ability to manage multitasking (Portanova, 2014; Terry, Mishra, & Roseth, 2016), and older students may be more cognizant of their ability or inability to negotiate various activities at once. It may also be that educational experience tempers one's inclination to multitask (Judd & Kennedy, 2011). It is important to note that although some types of students may be more skilled at multitasking, the practice can still affect these students' performance.

Effects of multitasking on performance. In determining the significance of multitasking in general, the effects of multitasking on performance must be considered. Researchers have shown that lower levels of multitasking lead to better productivity (Adler & Benbunan-Fich, 2012; Aral, Brynjolfsson, & Van Alstyne, 2011). This could

be attributed to how the gains in efficiency due to increased arousal counterbalance any cognitive losses due to task switching (Adler & Benbunan-Fich, 2012). In addition, multitasking can allow workers to be productive on one project during a lull in another (Aral et al., 2011). On the other hand, higher levels of multitasking result in a loss of accuracy and performance (Adler & Benbunan-Fich, 2012; Aral et al., 2011). Taking on too many activities at once causes congestion, requires workers to refocus on each task as they switch, and ends up taking more time and attentional resources in the end (Aral et al., 2011). This means that students are working harder and taking longer than if they did not multi-task. Many students most likely do not understand the negative consequences of multitasking, which explains their propensity to engage in such actions, regardless of the damaging results.

Cyberslacking in the Classroom

Although research and opinions are divided on whether technology truly has a more positive than negative effect on learning, technology integration has permeated all aspects of education. As a result, more students are participating in media multitasking. This leads directly to the next section of the review of this literature: cyberslacking in the classroom. This section will focus on the following topics: (a) the definition of cyberslacking, (b) cyberslacking behaviors, (c) cyberslacking motivations, (d) the effects of cyberslacking in class, (e) perceptions of cyberslacking and its effects, and (f) research methods and measures of cyberslacking.

Cyberslacking Definition

Since technology has pervaded everyday life, the term cyberslacking has become common. Cyberslacking is the action of engaging electronically in off-task behaviors

when an individual should be working and is considered to be counterproductive workplace behavior (Baturay & Toker, 2015). Cyberslacking is also relevant in an educational setting. It occurs in classrooms when students use the internet or other technology during scheduled class time for purposes unrelated to the course (Taneja et al., 2015; Yılmaz et al., 2015). Although cyberslacking is related to multitasking, these two terms are not synonymous. Oftentimes, students who are multitasking are also cyberslacking, but that does not always have to be the case. It is possible for students to multitask among various course-related tasks. Multitasking becomes cyberslacking when the some of the digital activities in which the students are engaged are not related to their school work.

Cyberslacking Behaviors

There are two elements significant to understanding cyberslacking behaviors. These include (a) types of cyberslacking and (b) frequency of cyberslacking.

Types of cyberslacking. Students engage in a diverse assortment of off-task digital behaviors during class. Researchers have found that the majority of students use technology for reasons other than class-related activities at some point during class time (Currie, 2015; Jackson, 2013; Judd & Kennedy, 2011; Kraushaar & Novak, 2010; Portanova, 2014; Ragan et al., 2014). In fact, students often use their devices more for cyberslacking than academic use in class (Awwad et al., 2013). The cyberslacking behaviors in which students are engaged during class time are varied, but many of the same activities seem to be common across several studies. Texting is a frequent distraction (Bellur et al., 2015; Currie, 2015; Junco, 2012), and some students conduct personal business, such as checking email in class (Currie, 2015; Junco, 2012; Junco &

Cotten, 2012). In addition, many students use technology for entertainment rather than paying attention in class, for example gaming (Jones, 2016) or watching videos (Currie, 2015). There are any number of enticing activities that may distract students from their learning when they are connected to a digital device and the internet.

However, the most wide-spread cyberslacking behavior seems to be interacting with social media (Bellur et al., 2015; Currie, 2015; Jones, 2016; Judd, 2013; Junco, 2012; Junco & Cotten, 2012; Karpinski et al., 2013). Andersson et al. (2014) found that 52% of the students in their study used social media every day in school, citing Facebook as the most frequent. In addition, in a study conducted by Gupta and Irwin (2016), students indicated they tend to task-switch with Facebook more often than any other activity, and they would be more likely to immediately attend to a Facebook notification than other types of notifications. Furthermore, a survey performed by Jackson (2013) showed the most visited non-academic websites to be Facebook and Twitter. The appeal of social media may be due to the fact that students crave a persistent connection to the outside world and have become accustomed to the instant gratification of always knowing what is going on in their social circle.

Frequency of cyberslacking. Research illustrates that cyberslacking during class or study time is a substantial distraction. Kraushaar and Novak (2010) found that students have non-course related applications open and active about 42% of the time. Also, Ragan et al. (2014) observed that in a large class, students who were using laptops were off-task about two-thirds of the class period. In addition, during observations conducted in a study by Rosen et al. (2013), participants averaged less than six minutes on task before switching to another activity, and this was usually initiated by

technological distractions including social media and texting. This frequency of multitasking seems to be related to the fact that many students feel the need to be constantly connected to their devices in one way or another (Bellur et al., 2015; Yaşar & Yurdugül, 2013). Students are distracted by the notifications on their mobile devices, which often lead them to engage in cyberslacking (Gupta & Irwin, 2016; Jones, 2016).

Cyberslacking Motivation

Many factors influence a student's tendency to cyberslack; however most of these reasons fall under two particular categories. These two specific types of cyberslacking motivation will be examined in this section, including (a) student-induced motivation and (b) lesson design.

Student-induced motivation. One type of motivation behind a student's engagement in cyberslacking is introduced due to the student him or herself. Many students have formed habits involving digital devices that are hard to break during class time (Aagaard, 2015; Błachnio & Przepiorka, 2016; Olufadi, 2015; Yaşar & Yurdugül, 2013). These behaviors are deeply ingrained and lead students off-task before they consciously realize what they are doing (Aagaard, 2015). Students with this addiction-type behavior are unable to resist temptation (Błachnio & Przepiorka, 2016). Based on these studies, one could conclude that in cases of technology dependence, some students do not make a deliberate choice to cyberslack but engage in the activity out of habit.

In addition to technology addiction, cyberslacking can also be a problem when students are unmotivated (Taneja et al., 2015; Chatham, 2015). If a student exhibits apathy towards course material or has positive feelings concerning being off task, he or she is more likely to participate in cyberslacking (Taneja et al., 2015). In addition, many

students indicate that activities they feel are important to their own success are effective at keeping them on task (Chatham, 2015); therefore, it is more probable they will engage in cyberslacking if they are indifferent to the material being taught or studied. For example, Taneja et al. (2015) found that students who were not successful at understanding the material in a particular course or who were not interested in the subject tended to lose focus and cyberslack more often than students who were successful and interested (Taneja et al., 2015). This seems to emphasize the importance of educators' attention to students' interests and needs as they create curriculum.

Lesson design. Another motivating factor in cyberslacking is lesson design. Poorly designed lessons or those that do not engage students cause boredom and often result in cyberslacking behaviors (Aagaard, 2015; Barry, Murphy, & Drew, 2015; Chatham, 2015; Jones, 2016; Olufadi, 2015; Taneja et al., 2015). When students are uninterested in a topic, they lose focus, and this lack of engagement has a negative effect on attention (Taneja et al., 2015), thus possibly resulting in cyberslacking. Furthermore, if a lesson is too hard, students may give up and resort to off-task behaviors with technology as a respite from the difficult work; in contrast, if the lesson is too easy, students may become bored (Aagaard, 2015). Either of these situations can cause students to employ cyberslacking as a coping device. Barry et al. (2015) found that the ways in which lectures engaged students affected how students engaged with their technological devices; less engaging discourse resulted in more cyberslacking. As previously stated, these findings imply that teachers' decisions in designing lessons could help moderate students' tendency to cyberslack.

Effects of Cyberslacking

In this section, two particular effects of cyberslacking will be presented. These include (a) the effect of cyberslacking on the classmates of cyberslackers and (b) the effects of cyberslacking on academic achievement.

Effects of cyberslacking on the classmates of cyberslackers. Researchers have found evidence that students are distracted by their classmates who cyberslack (Currie, 2015; Jackson, 2013; Sana, Weston, & Cepeda, 2013; Taneja et al., 2015). Currie (2015) found that 50% of students in her study reported that they felt distracted by classmates who used their personal technological devices for non-course related activities. In a survey at California Polytechnic State University facilitated by Jackson (2013), it was determined that 31% of students feel that off-task use of technology in the classroom is distracting to others. Also, Sana et al. (2013) observed that students who were in direct view of another student who was multitasking, but who was not multitasking him or herself, performed lower on a test than students who were not. In addition, students who see their friends and peers engaging in cyberslacking are more willing to participate themselves (Taneja et al., 2015). Although smaller than the effects on the cyberslacker him or herself, there is still a significant enough of an effect for concern.

Effects of cyberslacking on academic achievement. In addition to peripheral effects, cyberslacking also incurs more direct consequences for the participant. There has been much research on how cyberslacking influences academic achievement in general, and the consensus is that it has a negative effect (Bellur et al., 2015; Duncan, Hoekstra, & Wilcox, 2012; Junco, 2012; Perry & Steck, 2015; Ravizza et al., 2014; Risko, Buchanan, Medimorec, & Kingstone, 2013). The results of research by Bellur et al. (2015) indicates

that students who cyberslack must spend more time on academic endeavors, an issue that could lead to students falling behind, which in turn negatively affects grades. In fact, Bellur et al. (2015) claim that a student's tendency to multitask in class was a stronger predictor of the student's college grade point average than any other factor, including time spent studying. In addition, students who cyberslack comprehend less information from the class than those who do not engage in off-task behaviors with technology (Gupta & Irwin, 2016; Kuznekoff & Titsworth, 2013; Portanova, 2014; Risko et al., 2013; Sana et al., 2013). Cyberslacking students are not paying close attention to class activities or the study material on which they intend to be focused, thus resulting in a looser grasp of the content.

Some researchers are more specific, asserting that the off-task use of social media (Junco, 2012; Junco & Cotten, 2012; Karpinski et al., 2013; Rosen et al., 2013; Wood et al., 2012) and cell phone use during class (Duncan et al., 2012; Junco, 2012; Junco & Cotten, 2012; Kuznekoff & Titsworth, 2013; Lepp, Barkley, & Karpinski, 2014) are specifically correlated to a decrease in academic achievement. Junco (2012) and Junco and Cotten (2012) discovered that multitasking with Facebook and texting during class were overall predictors of a student's grade point average. Furthermore, Karpinski et al. (2013) found in their research that the more a student multitasked with social networking sites, the lower the student's grade point average was. In addition, Rosen et al. (2013) noted that the students they observed accessing Facebook during a study period had lower grade point averages overall. Finally, Kuznekoff and Titsworth (2013) reported that students who did not use their cell phones during lecture scored a full letter grade and a half higher on a test than students who were consistently using their phones. As

previously noted, students often feel the need to be constantly connected to the world, and these results could indicate that students are more drawn to these two types of cyberslacking because they give students the sense of being connected through social media and texting. However, students seem to be engaging with these activities to their own detriment.

Although the majority of the literature maintains that cyberslacking is disadvantageous for students with regards to academic achievement, there are a few studies in which results suggest that there is no significant academic difference between those who use certain types of technologies to cyberslack and those who do not. Instant messaging (Bowman, Levine, Waite, & Gendron, 2010; Junco, 2012), email, searching the internet, and talking on the phone (Junco, 2012; Junco & Cotten, 2012) do not appear to have any impact on grades when utilized as off-task activities by students. This may be due to the fact that these behaviors are not as prevalent, are not as attractive to students, or do not consume as much attention as the other undertakings that have been shown to have a substantial negative effect.

Perceptions of Cyberslacking and Cyberslacking Interventions

There are an abundance of perceptions and interventions related to cyberslacking. In this section, I will specifically address (a) teacher perceptions (b) interventions by teachers to prevent cyberslacking behaviors, and (c) student perceptions.

Teacher perceptions. Although some teachers are not really sure if students are truly negatively affected by cyberslacking (Cheong, Shuter, & Suwinyattichaiporn, 2016), most teachers agree that digital technologies contribute distractions to the classroom (Cheong et al., 2016; McRae, 2016; O'Bannon & Thomas, 2015). It seems

that students are having a progressively difficult time focusing on educational tasks (McRae, 2016), and this may be because of the proliferation of technological diversions. Many instructors feel the need to limit the use of technology during class due to digital distractions, but they struggle with managing the cyberslacking issue in their classrooms (Cheong et al., 2016; Thomas, O'Bannon, & Britt., 2014). They often feel that their classrooms are too large to efficiently monitor students' off-task behaviors, they are unable to spot cyberslacking, and they do not have time to micromanage students' behavior on their devices (Cheong et al., 2016). It seems that teachers are aware of the cyberslacking issue but are unsure of what to do about it.

Interventions by teachers to prevent cyberslacking behaviors. In their endeavor to prevent cyberslacking by their students, and thus preclude any negative consequences thereof, educators have employed numerous strategies to intervene. Most teachers communicate specific guidelines to their students about the use of technology in their classroom (Cheong et al., 2016). For example, teachers may ban technology in favor of paper and pencil, specify the types of technology allowed (i.e. allowing laptops but not cell phones), or allow all forms of technology with restrictions (i.e. specifying for educational purposes only or allowing cell phone use only during certain times or in certain locations)(Cheong et al., 2016). In addition, instructors attempt to continually monitor and redirect learning activities when students become digitally distracted (Cheong et al., 2016; Tasgold, 2013). Most teachers, and even some students, enact consequences when their students or classmates cyberslack (Cheong et al., 2016; Hendry, Wiggins, & Anderson, 2016). Another technique teachers use to avert cyberslacking is to prepare lessons that keep students engaged (Gupta & Irwin, 2016; Tasgold, 2013). Some

researchers have found that monitoring digital activities through the use of computer programs and issuing consequences for students who are discovered to be off-task are often also effective at limiting cyberslacking (Glassman, Prosch, & Shao, 2015; Ugrin & Pearson, 2013). Furthermore, some teachers ignore cyberslacking all together, expecting students to be responsible for their own attention and learning (Cheong et al., 2016). Finally, many teachers have placed a ban on some types of technology. A growing trend in college classrooms involves the strict ban of laptops for notetaking. Holstead (2015), a professor of journalism at the University of Kansas, lamented that she "could not compete with Facebook and YouTube, and [she was] tired of trying" (par 1). The fact that cyberslacking is still cited as an issue in the classroom illustrates that these measures, while they may be somewhat successful either temporarily or in certain situations, as a whole, they are not effectively moderating students' cyberslacking behaviors.

Student perceptions. There is not as much literature regarding student perceptions on cyberslacking as there is on the opinions of teachers. Chatham (2015) and Jackson (2013) found that students feel that discussing the cyberslacking issue with them helps them to be more aware of the issue and receptive to changing their behavior. However, most students seem to be frustrated by strict bans on technology (Jackson, 2013). This indicates that students would enjoy being given the responsibility to monitor themselves regarding cyberslacking behaviors. However, students tend to underreport the frequency of their own cyberslacking activities by about half (Duncan et al., 2012), showing that they may not be able to make informed decisions about cyberslacking when given the opportunity. Furthermore, although most students claim that they perceive cell phones as distractions in the classroom (Jackson, 2013), previously discussed research

indicates that texting is a major cyberslacking diversion. In another contradiction, students report feeling that they have adopted dysfunctional uses of technology that distract them from their learning in class (Strom, Strom, & Sindel-Arrington, 2016), but the literature mostly points to the fact that cyberslacking continues to occur, regardless of their acknowledgement. It appears that students do not truly understand the severity and significance of the cyberslacking matter.

Research Methods and Measures of Cyberslacking

Various research methods and measures have been employed by researchers in the past to study cyberslacking, teacher and student perceptions thereof, and the effects of cyberslacking. The following methods and measure will be reviewed in this section (a) self-report measures, (b) interviews, (c) observations, (d) quasi-experimental methods, and (e) mixed-methods. Table 2.1 shows the methods, types of measures utilized, and example studies in more detail.

Table 2.1 *Methods and Measures Used to Study Cyberslacking*

Research Method	**Measures Used to Collect Data**	**Example Studies**
Self-report	• surveys • questionnaires	Akbulut et al., 2017; Awwad et al., 2013; Barry et al., 2015; Bellur et al., 2015; Błachnio, & Przepiorka, 2016; Chatham, 2015; Currie, 2015; De Shields, 2016; Duncan et al., 2012; Jackson, 2013; Junco, 2013; Junco & Cotten, 2012; Karpinski et al., 2013; Kraushaar & Novak, 2010; Lepp et al., 2014; Olufadi, 2015; Ravizza et al., 2014; Strom et al., 2016; Taneja et al., 2015; Ugrin & Pearson, 2013; Williamson & Muckle, 2018; Yaşar & Yurdugül, 2013; Yilmaz et al., 2015
Interviews	• one-on-one interviews	Aagard, 2015; Andersson et al., 2014; Ashrafzadeh & Sayadian, 2015; Cheong

Research Method	Measures Used to Collect Data	Example Studies
	• focus group interviews	et al., 2016; Jones, 2016; Preston et al., 2015; Rosen et al., 2013; Strother, 2013; Tasgold, 2013
Observations	• digital monitoring system • classroom observations	Aagaard, 2015; Glassman et al.; Hendry et al., 2016; Judd, 2013; Judd & Kennedy, 2011; Risko et al., 2013; Rosen et al., 2013
Quasi-experimental	• intervention with observation • intervention with pre- and/or post tests	Bowman et al., 2010; Gupta & Irwin, 2016; Kuznekoff & Titsworth, 2013; Wood et al., 2012
Mixed Methods	• combination of two or more of the above listed measures	Jones, 2016; Matthews & Johnson, 2017; Portanova, 2014; Ragan et al., 2014; Sana et al., 2013; Tasgold, 2013

Self-report measures. The most prevalent method used to study cyberslacking has been self-report measures. For example, Baturay and Toker (2015) used questionnaires to survey 282 high school students in order to determine their demographics and cyberslacking activities. They employed the responses from their participants to determine the impact of demographics on cyberslacking behavior. Another instance of self-report measures is surveys used by O'Bannon and Thomas (2014) and O'Bannon and Thomas (2015) to discover teacher perceptions of the use of cell phones in class. In these studies, they surveyed teachers and preservice teachers to understand their support for the use of mobile phones in class, their thoughts on which mobile phone features may be beneficial for education, and the benefits and challenges of

using mobile phones in the classroom. Although self-report measures, such as questionnaires and surveys seem to be the easiest and quickest way to learn a person's feeling about a specific topic, they do have limitations. Self-report data may not always be accurate due to factors that could influence individuals to respond in ways different from what they typically would (Fraenkel, Wallen, & Hyun, 2015), such as if respondents feel pressure to answer a certain way or if they mis-calculate their own behavior.

Interviews. Interviews have also been an important method used to examine cyberslacking. Cheong et al. (2016) utilized interviews to uncover teacher perceptions and interventions in managing student cyberslacking behavior. Preston et al. (2015) also incorporated interviews in their study. They interviewed educational leaders about how they felt technology affected student motivation, as well as the challenges associated with technology integration, such as cyberslacking. In addition, Andersson et al. (2014) interviewed both students and teachers at three schools in Sweden about social media use and how it diverts student attention from learning. Interviewing can help a researcher gain unique insights into what participants think or feel about a topic (Fraenkel et al., 2015), and it allows the researcher access to information that may not be uncovered in methods such as surveys and questionnaires (Blaxter, Hughes, & Tight, 2006). Nevertheless, this method does have some limitations. For example, the data collected in interviews are subjective and could be faulty, depending on the participant's memory and perceptions (Alshenqeeti, 2014). Additionally, interviews can never be completely anonymous (Alshenqeeti, 2014), and this may lead to participants answering in certain ways to protect themselves.

Observations. Another method applied to the study of cyberslacking is observations. Some researchers employed a digital monitoring system to detect the frequency of multitasking during school and/or work time and on what types of activities participants multitask (Glassman et al., 2015; Risko et al., 2013). For example, Judd (2013) and Judd and Kennedy (2011) used a custom-created monitoring system in open-access computer labs to monitor how students who were participating in self-directed study multitasked while using the computers. Also, in some studies, classroom observation was used to ascertain the frequency of student cyberslacking and the types of cyberslacking in which the student engaged. Aagaard (2015) silently participated in several courses, sitting in the back of the room and watching how students interacted with their technology. Other researchers used more structured methods, such as observations conducted by Ragan et al. (2014) in which three observers rotated to different areas of the room for fifty minutes at a time to record the activities of students on their laptops. Classroom observations were also used to examine how teachers and/or students manage digital distractions in the classroom (Hendry et al., 2016; Tasgold, 2013). Direct observations have their advantages, as some research questions are best answered by observing how people act (Fraenkel et al., 2015); however, they also have disadvantages. For example, there is always the possibility of the observer effect in which participants act differently because they are being observed, and observe bias, in which the observer allows his or her personal feelings to bias what they see (Fraenkel et al., 2015).

Quasi-experimental methods. Quasi-experiments have also been used to study cyberslacking. Some researchers placed students in situations where they must or were allowed to multitask with various digital media during an academic task to determine

how the distractions affect the students' performance (Sana et al., 2013; Wood et al., 2012). For example, Bowman et al. (2010) simulated a classroom environment in which students read a text. Some participants completed this task while interacting with instant messages (IMs), and some read with no distractions from IMs. They used the data they collected to determine how performance was affected by the distraction of IMs. Similarly, Kuznekoff and Titsworth (2013) performed a quasi-experiment in which participants watched a video lecture, took notes on the lecture, and completed two assessments after the lecture. During these tasks, some participants were presented with simulated text messages or social media posts every 60 seconds to which they had to respond, and some participants were required to respond every 30 seconds. The researchers compared the performance of the two groups to determine if a higher number of distractions affected performance on the tasks. In other literature, researchers tested students to determine how their grammar skills related to their frequency of texting and use of techspeak (Cingel & Sundar, 2012; De Jonge & Kemp, 2012). Experimental research allows the researcher to go beyond just description, identification of relationships, and prediction to at least a limited determination of cause (Fraenkel et al., 2015). Nevertheless, these quasi-experiments do have some drawbacks: (1) they are not truly randomized experiments, and (2) they oftentimes employ simulations of situations, rather than observing participants in real life circumstances.

Mixed methods. Some researchers applied mixed methods in their search for answers. Jones (2016) employed three measures in his research to determine how multitasking affects secondary students. He incorporated a memory recall quasi-experiment, student interviews, and a survey instrument to establish how boredom,

multitasking, and distraction were related among his participants. In another example of mixed methods, Gupta and Irwin (2016) had students listen to lectures during which some students were presented with simulated Facebook notifications and some were not; after the lectures, students took a test to determine how the Facebook notifications impacted the students' achievement. In addition to this quasi-experiment, Gupta and Irwin (2016) also utilized survey data to ascertain students' Facebook usage and multitasking tendencies in real life. In a final instance of mixed methods research, Perry and Steck (2015) also employed quasi-experimental methods when they studied three classes, two of which employed the intervention of using iPads in class to complete learning activities and one control group that continued to use traditional methods. At the beginning, middle, and end of the experimental semester, the researchers measured student engagement using self-report surveys and teacher observations. Mixed methods research has several strengths, including the ability to help explain in-depth and cross-validate relationships between variables (Fraenkel et al., 2015). Still, there are some shortcomings with utilizing mixed methods. These include the time and resources needed and the fact that researchers need expertise in more than one type of research (Fraenkel et al., 2015).

Chapter Summary

The digital age continues to encourage the emphasis of technology in education. Although the literature in this review indicates that perceptions of technology vary from positive to negative among teachers and students, it also illustrates the continued perseverance of educators to integrate technology in lesson design. Furthermore, the ubiquity of technology integration in the classroom has led to increased media

multitasking, as students have easy access to applications and websites that serve as diversions from learning. The literature demonstrates teachers and students both perceive this off-task behavior with technology, that is cyberslacking, as distracting to learning. Not only this, but cyberslacking has also been shown to have negative effects on academic achievement. However, although instructors have attempted various interventions to moderate cyberslacking, students continue to participate in off-task activities with technology, regardless of the consequences. This reality is the impetus for my research study and has guided the formulation of my research questions to discover how frequently my students engage in cyberslacking, the types of cyberslacking activities in which they partake, what motivates them to participate in cyberslacking, and what their personal perceptions are of cyberslacking and its effects on them as students. As previously noted, there is very little research in students' personal perceptions of their own cyberslacking behaviors, and my research will help serve to fill this gap in the literature.

CHAPTER 3

METHOD

The purpose of this action research was to describe students' understanding of cyberslacking and its academic and social effects in my English 3 Honors and Films Studies classes at Carraway High School. In my study, I sought to more fully understand a problem I have encountered in my personal context as a classroom teacher. This is the basic foundation of action research: teachers conducting an investigation with the intention of gathering information about their students and environments to find ways to improve their practice (Mertler, 2017). The following research questions were proposed for this study:

1. How frequently do students engage in cyberslacking during class?
2. In what kinds of cyberslacking activities do students engage during class?
3. What do students feel leads them to cyberslack?
4. What are students' perceptions of cyberslacking and its academic and social effects?

Research Design

Action research is a systematic inquiry conducted by a school's vested stakeholders to gather information about operations, teaching, or learning (Mills, 2011). It is typically facilitated by a practitioner in her own personal context. According to Fraenkel et al. (2015), action research differs from traditional research in two regards. First, in conventional studies, the ultimate goal is to produce findings that are

generalizable to a larger population. However, the purpose of action research is to improve the quality or effectiveness of the local education, and generalization is not as important. In addition, participants in action research are often actively involved in the inquiry, thus collaboration between researcher and other stakeholders is more significant than in other methods.

Mertler (2017) proposes six advantages to using action research. The first is to "connect theory to practice" (p.19), which allows teachers to test out new strategies in their own classrooms. Next, this type of inquiry improves educational practices by encouraging teachers to be reflective practitioners and make decisions based on their studies. Action research may also facilitate improvements school or district-wide, if researchers take a more collaborative approach and work together with other school or district stakeholders. Another benefit of action research is that it gives teachers the power to make informed decisions and to become more intellectually engaged in what is happening in their own classroom and with their students. A fifth advantage to action research is that it allows teachers to grow professionally. Self-study and reflection allow professional development to be more individualized and meaningful. Lastly, critical action research can lead to the provision of equitable opportunities for underserved populations within a local context, which is an important purpose of action research.

I incorporated several of these aspects into my study about cyberslacking in my classroom. Using action research in this context empowered me to be a more reflective practitioner (Mertler, 2017) and be more intellectually engaged in what was going on with my students. Through my study, I was able to comprehend my students' cyberslacking habits and motivations more clearly. In turn, I used this understanding to

guide decisions about my practices regarding students' use of technology in my classroom. Since these were the goals of my investigation, action research was the best method from which to approach this inquiry.

The research design for my study was an explanatory sequential mixed methods approach (Creswell, 2014). This research design was completed in two phases, the first quantitative and the second qualitative. Results from Phase 1 were used to plan or build onto Phase 2 (Creswell, 2014). This provided the opportunity for my quantitative findings to guide my qualitative data collection process, and "the qualitative data … help[ed] explain the quantitative data in more detail" (Creswell, 2014, p. 274).

Setting

The research took place at Carraway High School (CHS) in Middle View School District in the southeastern US. I conducted this study as a participant researcher in my own classes as a teacher. The participants were students in my English 3 Honors and Film Studies courses. English 3 Honors is a course focused on American literature, composition, communication, research, and inquiry. In Film Studies, students learn the techniques that filmmakers use to create meaning in award-winning movies, analyze films for their use of such techniques, and put the skills into practice in their own films. These classes met for 83 minutes a day, for 90 school days (one semester). The students' cyberslacking behaviors and perceptions were studied over the course of the semester in several different units and during various types of learning activities.

Beginning in the 2011-2012 school year, CHS began an iPad initiative, in which each student was issued an iPad for school use. Since this program was instituted, iPads had become an integral part of instruction and learning in most teachers' classrooms

across the school, including mine. Over the course of the past seven years, I had adopted a blended learning approach in both my English 3 Honors and Film Studies classes that integrated technology fully into most aspects of my students' learning. Students received assignments, completed and submitted formative and summative assessments, and obtained feedback digitally. Moreover, we conducted conferences, tutored, and collaborated virtually. However, pursuing this level of integration had come with some drawbacks. One major obstacle was the increased amount of technological distractions (a.k.a. cyberslacking) I had observed in my students. Although the district instituted filters and limitations, students had discovered new ways to get around the districts' restrictions to access social networking websites and applications, play games, message each other, and participate in other cyberslacking activities during class time.

In addition to the use of iPads, CHS had adopted a more relaxed cell phone policy. Students were allowed to use their cell phones between classes, at lunch, during their IMPACT time (a thirty-six-minute study hall during which students returned to a different class each day of the week for tutoring, to work on group assignments, to make up work, etc.), and at their teachers' discretion. As a result, I sometimes incorporated cell phones into my students' learning, as well, through the use of polling websites, reminder services that could send text messages to students, and by allowing students to complete their assignments on their smartphones if they were without an iPad for any reason. This inclusion also contributed to the cyberslacking issue, as it provided a much less restricted device through which students were able to access applications and websites typically filtered by the school district.

Another important aspect of the classroom in which this study took place was the collaborative nature of its arrangement. There were seven tables with four chairs each. Students sat in small groups and participated in collaborative activities daily. Students were aware of my policy regarding technology use in my classroom, which was that they were allowed to use any and all technology, but for educational purposes only. Games, messaging, and other off-task behaviors were not allowed. Students often had several devices on their desks during class. My class was paperless, so they often needed to access various apps, documents, or websites for the same assignment, and they appreciated being able to use each of their devices for a different part of the task at hand. However, the collaborative layout of the classroom necessitated students facing in various directions, so that no matter where the teacher stood or sat, some students were always facing towards the teacher, which means their iPad and/or phone screens may not have been visible while they were using them. Although I was active in my classroom, there were no vantage points from which I could see everyone's screens. I have observed that students' knowledge of this invisibility often promotes their tendency to cyberslack.

Participants

The participants were 59 high school students in grades 10 (n = 34), 11 (n = 15), and 12 (n = 10) who were enrolled in my English 3 Honors and Film Studies courses at CHS. These students were 15 (n = 17), 16 (n = 26), 17 (n = 13), or 18 (n = 3) years old. Of the students in the study, 71% (n = 42) were white, 12% (n = 7) were African American, 7% (n = 4) were Latin American, 5% (n = 3) were Asian, and 5% (n = 3) identified as Other. Female participants made up 56% (n = 33) of the population, and

males constituted 44% (n = 26). All participants in the study had access to school-issued iPads and personal devices, such as smartphones.

I selected these participants because they were the students to whom I had daily access and because the rapport I build with my students allowed for authentic participant research (Adler & Adler, 1987; Merriam, et al, 2001). In addition, these students were immersed in blended learning activities in my classes; therefore, they were using technology for most of each class period, which provided an appropriate environment in which to study students' cyberslacking activities.

All students for whom informed consent (see Appendix D) and assent (see Appendix E) were obtained participated in the observation and survey phases of the study. However, a subset of the participants was also invited for the focus group interviews through purposive sampling. In this type of sampling, a researcher uses his/her personal judgment based on previous knowledge of a sample and the research purpose to choose a representative sample (Fraenkel et al., 2015). This sampling technique worked best in this situation, as I was able to use my rapport with students to select participants who would be honest and forthcoming with their beliefs and perceptions, articulate in their expressions, and feel comfortable sharing in small groups. For this phase of research, I invited fifteen students to participate in three focus group interviews (with five students each). The criteria I used to invite participants was:

- diversity with regards to gender, ethnicity, and age,
- variety with regards to cyberslacking habits,
- ability to communicate ideas in clear and coherent discussion,
- open disposition and willingness to share in small groups,

- collaborative nature, and
- confidence in expressing their feelings, even if it is not a popular opinion.

Table 3.1 provides more specific information about the focus group participants, including their self-selected pseudonyms, ethnicity, gender, age, and grade.

Table 3.1 *Focus Group Participants*

Pseudonym	Ethnicity	Gender	Age	Grade
Angela	White	Female	16	10
Bryan	African American	Male	17	11
Chad	Hispanic	Male	15	10
Davis	White	Male	17	12
Elijah	Hispanic	Female	16	11
Eric	African American	Male	16	11
Jade	White	Female	16	10
Jimmy	White	Male	16	10
Juanita	Hispanic	Female	17	11
Lelani	White	Female	15	10
Michael	African American	Female	15	10
Priscilla	White	Female	18	12
Susan	White	Female	18	12
Tyrone	African American	Male	15	10
Vanessa	African American	Female	15	11

Data Collection

In order to investigate the proposed research questions, I used three data collection methods. I incorporated both quantitative and qualitative data collection through the use of observations, surveys, and interviews. Table 3.2 illustrates the alignment between my research questions and my data collection methods.

Table 3.2 *Research Questions and Data Sources*

Research Questions	Data Sources
1. How frequently do students engage in cyberslacking during class?	• Observations • Surveys • Interviews

Research Questions	Data Sources
2. In what kinds of cyberslacking activities do students engage during class?	• Observations • Surveys • Interviews
3. What do students feel leads them to cyberslack?	• Surveys • Interviews
4. What are students' perceptions of cyberslacking and its academic and social effects?	• Surveys • Interviews

Observations

The first method I used to gather data was participant observation (Mertler, 2017). Observations help researchers develop an objective, holistic understanding of the phenomenon being studied and can increase the validity of the research (DeWalt & DeWalt, 2002). To examine the cyberslacking habits of my students, my Digital Learning Coach (DLC) completed an observation checklist to focus on this specific behavior (see Appendix A). The observer selected and observed students in five locations of her choice in the classroom. She observed each location for nine minutes through direct observation. At the same time, she virtually observed the entire class's activities on their iPads using the Apple Classroom app. At each new location, she made note of the teacher's location in the classroom and the class activity. The observer made observation marks in three-minute increments, placing a check beside each cyberslacking activity she observed, the device used for cyberslacking, the method she used to observe the activity, and the duration of the cyberslacking. There were six observations, two in each of my three classes, and the observations lasted forty-five minutes each. My DLC was the observer for all six observations. The observations took place during different types of class activities, including whole-class instruction, group work, and individual

work times. These observations provided the answers to my first two research questions, which focus on how frequently students engaged in cyberslacking activities and the types of activities in which they were participating. All student participants who were present on the dates of the observations participated in this phase of the research.

This method of observation was inspired by two studies. In the first, Ragan et al. (2014) employed three observers in a 3,000-seat auditorium. The observers watched six to 11 students at a time for 50 minutes, making a recording on their data sheet once every three minutes. They moved to a new observation point every 50 minutes, observing a new group of students and repeating the process. In a second study by Wood, Mirza, and Shaw (2018), observers monitored 20 students and scored certain behaviors every 30 seconds. I incorporated the idea of observations at timed intervals, as well as changing locations at predetermined times, based on the work in these two studies.

It was necessary to ensure the validity of the observation instrument to confirm its "appropriateness, correctness, meaningfulness, and usefulness" (Fraenkel et al., 2015, p. 149). To validate the observation tool, the observer used the instrument in two preliminary observations with the participants to ensure that the instrument was comprehensive and adequately measured the frequency, duration, and type of cyberslacking activities occurring in the classroom. In addition, these initial observations were used to ensure the ease of use and clarity of the instrument for the observer. After each preliminary observation, I examined the results and conferenced with the observer to determine any necessary changes. I updated the observation instrument after each practice observation and before the official observations begin.

Surveys

After the observation phase had been completed, I conducted an anonymous student survey using a Google Form (see Appendix B). Surveys have an economical design and a quick turnaround time, which makes them ideal for ascertaining the characteristics of a large group (Fowler, 2009). The purpose of the survey was to provide data to answer all four research questions. Table 3.3 illustrates the alignment of the survey questions with the research questions for this study. For example, to answer Research Question 1, the survey asked questions such as "How many times did you engage in cyberslacking?" In order to address Research Question 2, queries such as "In what kinds of cyberslacking activities did you engage today?" were posed. Research Question 3 was addressed through items such as "Which of the following motivated you to engage in cyberslacking in class?" followed by choices of motivations. Finally, I included items focused on exploring Research Question 4, such as "Do you feel that your cyberslacking had a negative effect for you today?" The survey included sixteen closed-ended questions I created, and students responded by selecting answers from a list. The survey was given on two different dates in all three classes, and participants who were present on these dates participated. There was a total of 117 responses across both surveys from 59 students. Not all participants completed both surveys, as there were some students who were absent for one of the two surveys. The data collected from the survey was used to provide a description of students' perceptions about their cyberslacking habits.

Table 3.3 *Research Questions and Survey Questions Alignment*

Research Questions	**Survey Questions**
1. How frequently do students engage in cyberslacking during class?	1. How many times did you engage in cyberslacking? □ 1 time □ 2 times □ 3 times □ 4 times □ 5 times □ More than 5 times □ I did not engage in cyberslacking in class. 2. When you engaged in cyberslacking, about how long did it last each time? □ Less than 1 minute □ 1-2 minutes □ 2-3 minutes □ More than 3 minutes □ I did not engage in cyberslacking in class. 3. About how much time **total** do you estimate you spent cyberslacking today in class? □ Less than 1 minute □ 1-5 minutes □ 6-10 minutes □ 11-15 minutes □ More than 15 minutes □ I did not engage in cyberslacking in class.
2. In what kinds of cyberslacking activities do students engage during class?	1. In what kinds of cyberslacking activities did you engage today? Select all that apply. □ Gaming □ Facebook □ Twitter □ Snapchat □ Instagram □ Surfing the internet □ Texting □ Face Timing □ Taking pictures/selfies □ Personal emails □ Watching videos □ Other (please specify) _____

Research Questions	Survey Questions
	☐ I did not engage in cyberslacking in class. 2. Which devices did you use to engage in cyberslacking? Select all that apply. ☐ iPad ☐ cell phone ☐ smart watch ☐ computer ☐ other (please specify) _____ ☐ I did not engage in cyberslacking in class. 3. Which network did you use to engage in cyberslacking? ☐ School network ☐ Cell network ☐ My cyberslacking activity did not require network access. ☐ I did not engage in cyberslacking in class.
3. What do students feel leads them to cyberslack?	1. Which of the following motivated you to engage in cyberslacking in class? Select all that apply. ☐ Boredom ☐ Habit ☐ Notifications from my device ☐ Taking a break from work ☐ Personal business that I felt couldn't wait. ☐ I feel uncomfortable or anxious without constant access to my personal device and/or apps. ☐ I feel as if I'm missing something if I'm not checking my personal device and/or apps. ☐ I noticed other students doing it, and it made me feel the need to do the same. ☐ Other (please specify) _____ ☐ I did not engage in cyberslacking in class.
4. What are students' perceptions of cyberslacking and its academic	1. Do you feel that your cyberslacking had a ***negative*** effect for ***you*** on any of the following today? Select all that apply. ☐ Concentration and attention ☐ Class participation ☐ Group collaboration ☐ Completion of an assignment ☐ Quality of an assignment

Research Questions	Survey Questions
and social effects?	□ Your teacher's perception of you as a student □ Your classmates' perception of you as a student □ Other (please specify) _____ □ Cyberslacking did not have any negative effects for me. □ I did not engage in cyberslacking in class. 2. Do you feel that your cyberslacking had a ***positive*** effect for ***you*** on any of the following today? Select all that apply. □ Anxiety/stress relief □ Helped maintain a relationship □ Reduced worry □ Improved reputation in front of other students □ Kept me from being overwhelmed by classwork □ Other (please specify) _____ □ Cyberslacking did not have any positive effects for me. □ I did not engage in cyberslacking in class. 3. How do you feel about your cyberslacking activities? □ I am good at multitasking, so cyberslacking is no big deal. □ I know it isn't good to cyberslack, but I do it anyway. □ I feel embarrassed when I cyberslack. □ I think I have a problem with technology addiction. □ I did not engage in cyberslacking in class. 4. When you noticed ***other students*** cyberslacking, do you feel that it had a ***negative*** effect for ***you*** on any of the following today? Select all that apply. □ Concentration and attention □ Group collaboration □ Completion of a group assignment □ Quality of a group assignment □ My perception of the person as a student □ My own tendency to cyberslack □ Other (please specify) _____ □ Other students cyberslacking did not affect me. □ I did not notice other students cyberslacking. 5. How do you think your or other students' cyberslacking affected your teacher? Select all that apply.

Research Questions	Survey Questions
	□ It hurt her feelings. □ She felt disrespected. □ She felt frustrated by it. □ She felt angry with those who were cyberslacking. □ It made her look at the cyberslackers in a negative light. □ It made her take more time to keep the cyberslackers on task. □ She was impressed at how good the cyberslackers are at multitasking. □ She did not notice the cyberslacking. □ It did not affect her at all. □ I did not engage in or notice other students cyberslacking in class.

Since this survey was administered to high school students, it was essential to certify that the format of the instrument was clear to the students, the questions were appropriate, and the results would provide meaningful information (Fraenkel et al., 2015). To ensure the validity of the survey instrument, I shared the questions with students who were not participants in the survey during the semester before the study took place. They commented on the clarity of the questions and the user-friendliness of the format. In addition, we engaged in an informal discussion about their answers to the questions as part of my regular classroom activities in a unit focused on the advancement of technology. Although no data was collected, I made changes to the survey based on these students' suggestions before the official survey was administered the following semester.

Focus Group Interviews

The last method I used to collect data was focus group interviews. The purpose of focus group interviews is to allow participants to share their perceptions, thoughts, and feelings in a permissive environment in order to learn more about the participants'

realities (Krueger & Casey, 2014). Furthermore, the group dynamic encourages conversation and reactions that may not come about in individual interviews (Mack, Woodsong, MacQueen, Guest, & Namey, 2005).

The focus group interviews in my study were semi-structured, open-ended discussions. Because interviewing different types of students provided me with multiple perspectives and because I wanted to be able to analyze patterns across different groups (Krueger & Casey, 2014), I conducted three focus group interviews with five students each. I created nine questions which served as conversation starters, and follow-up probes were used to facilitate deeper discussion (see Appendix C). All four research questions were addressed. Table 3.4 shows how the interview questions align with my research questions. For example, I used conversation starters such as "When you cyberslack during class, what kinds of things do you do?" or "What effects do you think cyberslacking has on you academically?" Each focus group interview lasted approximately thirty minutes, and they were audio recorded. I took written notes during the interviews and transcribed the interviews afterwards. Hearing what other students had to say on a topic encouraged students to discuss their habits and perceptions more openly and honestly and being in a small group rather than one-on-one with their teacher helped students to feel more comfortable with sharing their thoughts (Mertler, 2017).

Table 3.4 *Research Questions and Focus Group Interview Questions Alignment*

Research Questions	**Interview Questions**
1. How frequently do students engage in cyberslacking during class?	1. Give me some examples of ways you use technology in your classes. a. Tell me about the kind of freedom or ability do you have to use your personal devices in your classes. 2. How often would you say you use your devices for

Research Questions	Interview Questions
	cyberslacking during class? a. How long does it last when you are off-task with your devices? b. How many times in a class period would you say that you cyberslack?
2. In what kinds of cyberslacking activities do students engage during class?	1. Tell me about the kinds of things you do when you cyberslack. a. What devices do you use to do these activities? b. What do you notice your classmates doing? c. What devices do you see your classmates use? 2. Tell me about a time when you cyberslacked during class in the past week. a. If you didn't cyberslack, tell me about a time you noticed a classmate cyberslacking (no names). b. What was going on in the class at the time? c. Where was your teacher? d. How do you feel this affected the assignment you were supposed to be doing?
3. What do students feel leads them to cyberslack?	1. Think about a recent time when you cyberslacked. Why did you do it? a. Tell me how the district iPad has changed your cyberslacking activities. b. What about the relaxed cell phone policy? 2. Tell me about a time when you wanted to participate in cyberslacking but you didn't. a. What was it that stopped you? b. How do you decide when it's okay to cyberslack and when it's not a good idea? 3. Some people say that many teenagers have a deep connection with their personal devices that borders on addiction. What do you think about that idea? a. Can you give me an example of a personal experience you think is related to technology addiction? b. Why do you think this addiction exists, or if it

Research Questions	Interview Questions
	doesn't, why is there this perception?
4. What are students' perceptions of cyberslacking and its academic and social effects?	1. Describe a recent time you were cyberslacking and how it affected your grade in a class or on a specific assignment. a. How does your cyberslacking affect your classmate? b. What about when you are in a group? c. If you think it has negative effects, why do you do it? 2. When you think of people who cyberslack, what assumptions do you make about them? a. If it bothers you, what do you do about it? b. Give me an example of a situation that showed you how teachers think about these people. c. Give me an example of a situation that showed you how others (classmates) feel about your cyberslacking.

In order to ensure the validity of the interview questions, I enlisted the help of students who were not participants in my study. As part of my regular class activities, students participate in a unit about the advancement of technology. During this unit in the semester prior to the study, I asked students to analyze the focus group interview questions and comment on the clarity of the wording and format. In addition, we engaged in an informal, unrecorded conversation about their answers to the questions as part of class discussion in this unit. Although no data were collected from this conversation, I used their comments and responses to determine changes that need to be made for the final, official focus group interviews the following semester.

Data Analysis

In this mixed-methods study, three sources of data were analyzed: (a) observations, (b) student surveys, and (c) student focus group interviews. The alignment

among the research questions, data sources, and data analysis methods is depicted in Table 3.5.

Table 3.5 *Research Questions, Data Sources, and Analysis Methods Alignment*

Research Questions	Data Sources	Analysis Method
1. How frequently do students engage in cyberslacking during class?	• Observations • Surveys • Interviews	• Descriptive statistics • Inductive analysis
2. In what kinds of cyberslacking activities do students engage during class?	• Observations • Surveys • Interviews	• Descriptive statistics • Inductive analysis
3. What do students feel leads them to cyberslack?	• Surveys • Interviews	• Descriptive statistics • Inductive analysis
4. What are students' perceptions of cyberslacking and how it affects their grades?	• Surveys • Interviews	• Descriptive statistics • Inductive analysis

Procedures and Timeline

This study took place over the course of the Spring 2019 semester and consisted of three phases: Phase 1: Consent, Phase 2: Data Collection, and Phase 3: Data Analysis. Table 3.6 summarizes the timeline for the procedures.

Phase 1: Consent

Phase 1 occurred during the first week of the study period. In this phase, parents and students were informed about the research topic, purpose, and process. During this week, I fielded questions from parents and students and obtained informed consent (see Appendix D) from parents and assent (see Appendix E) from students.

Table 3.6 *Timeline for Procedures*

Phase	Activities	Timeframe
1: Consent	• Inform parents and students of topic, purpose, and process • Obtain informed consent and assent.	1 week
2: Data Collection	• Observations • Surveys • Focus group interviews	13 weeks
3: Data Analysis	• Descriptive statistics for observations and surveys • Focus group interview transcription • Focus group interview coding • Member checking • Sharing of preliminary results with parents and students	8 weeks

Phase 2: Data Collection

The data collection phase lasted thirteen weeks, during which three types of data collection occurred. Over the course of the first ten weeks, my Digital Learning Coach conducted six observations using the protocol (see Appendix A) I developed for determining the frequency and types of cyberslacking in which students participated. In addition, during the same 10-week period, students took a short survey on a Google Form (see Appendix B) about their cyberslacking activities and motivations. This survey was administered at the end of the class period on two different dates approximately five weeks apart and focused on their behaviors during that particular day. Finally, during the final three weeks of the data collection period, I conducted three focus group interviews (see Appendix C) to gain an understanding of students' perceptions of cyberslacking. These consisted of five students each, and I conducted one interview per week during our

IMPACT time (a thirty-six-minute period during which students return to my class once a week for study time, extra help, to make up work, etc.).

Phase 3: Data Analysis

The final phase of the study occurred during the Fall 2019 semester and lasted eight weeks. In this phase, I used descriptive statistics to summarize the data from the observations and survey data. In addition, I transcribed and coded the focus group interview data. I also employed member checking during this phase to ensure the trustworthiness of my data. At the end of this phase, I shared the preliminary results with parents and students through email.

Rigor and Trustworthiness

I used several strategies to ensure the rigor and trustworthiness of my research. These included prolonged exposure, triangulation, peer debriefing, member checking, thick, rich description, and an audit trail.

Being an "insider in collaboration with other insiders" (Herr & Anderson, 2005, p. 31), and spending a prolonged time in the field allows a researcher to cultivate an in-depth understanding of the phenomenon being studied and lends credibility and validity to the researchers' assertions (Creswell, 2014). My research was conducted in my English 3 Honors and Film Studies classes with my own students. In the 90 days of a regular semester, I saw these students daily, built rapport, and formed a relationship with them. This permitted me the opportunity to earn their trust, learn the culture of the classroom, and discern patterns in their behavior (Glesne, 2006), particularly their cyberslacking activities. Being in the field with these students regularly for an entire semester ensured the rigor and trustworthiness of my study.

In addition, I also triangulated different sources of data to certify the credibility of my research. Methodological triangulation is the process of tying together multiple sources of information to establish consistency of the facts (Bogdan & Biklen, 2007; Glesne, 2006; Mertler, 2017; Shenton, 2004). To do this, I collected data regarding students' cyberslacking habits, motivations, and perceptions via various mixed-methods, including observations, student surveys, and focus group interviews. Observations were conducted to record the frequency and activity of cyberslacking in class. Next, I was able to compare these findings with the information students reported on their surveys. Lastly, I was able to match both of these data to the responses during the focus group interviews. Pulling all of these sources of information together strengthened and validated my research.

A third method for rigor and trustworthiness that I used is peer debriefing, a strategy that involves working with other professionals who review the research study and provide feedback to the researcher (Bloomberg & Volpe, 2016; Creswell, 2014; Shenton, 2004; Mertler, 2017). During my study, I collaborated with my colleagues in the Curriculum and Instruction doctoral program, my course professors, as well as my dissertation chair and committee. In addition, I also partnered with my teacher colleagues at Carraway High School who were on my English department team and my Digital Learning Coach. These peer reviewers examined my data collection instruments (observation checklist, survey, and focus group interview protocols), my process, and my results. Their involvement provided a fresh perspective that helped me refine my methods and strengthen my argument (Shenton, 2004), thus establishing validity for my research study.

Member checking was also employed in my investigation. According to Mills (2011) and Stringer (2007), participants should have the opportunity to review the data collected, the researcher's analysis of data, and the final report of findings. During my research, I included my students in the process from start to finish, and they had access to the results of my research. I shared my preliminary interpretations through email with students who participated in my focus group interviews, giving them the chance to assess the accuracy of my themes, findings, analysis, and assertions. Of the fifteen students who engaged in focus group interviews, I received a response from seven, all of whom agreed that my interpretations matched their experiences. This process is important in action research situations like mine, in which the researcher occupies a position higher in the institutional hierarchy than the participants (Herr & Anderson, 2005). The use of member checking established reciprocity with my participants, solidified our trust in each other, and fulfilled the characteristics of high-quality research (Lincoln, 1995). In addition, it allowed me to verify my emerging theories and qualitative findings (Creswell, 2014; Shenton, 2004).

It is also expected in most qualitative studies that the researcher will provide thick, rich description. This detailed account conveys the findings of a study in such a way that the readers feel transported to the setting and feel a sense of shared, vicarious experiences (Bloomberg & Volpe, 2016; Creswell, 2014). In my reports, I employed this technique to describe the phenomenon of cyberslacking in my classroom. This was especially useful in discussions of the focus group interviews. This meticulous depiction of my findings presents a thorough picture to my readers, and it provides credibility and validity to my study.

Finally, I preserved an audit trail, which is a "detailed and thorough explanation of how the data were collected and analyzed" (Bloomberg & Volpe, 2016, p. 78). This will allow anyone to trace the course of my research decisions and process (Shenton, 2004). Corbin and Strauss (1990) assert that memo writing is integral to the research process. As such, I kept a researcher journal in which I recorded memos about my process, revisions, theories, coding, emerging themes, and questions. Not only did this practice form a solid foundation for my research and interpretations, but it also served as a measure of rigor and trustworthiness in that others will be able to follow my line of reasoning and the progression of my study.

Plan for Sharing and Communicating Findings

At the conclusion of my research, I will share my findings with the major stakeholders in connection to the study. As an important part of reciprocity (Lincoln, 1995) the first group to whom I will communicate my findings will be the student participants and their parents. I will share the results of the study with them through email and offer them a chance to reflect about the implications for their education and future action. Furthermore, I will communicate the results of my study with the faculty and administration at my school via a short presentation and discussion during a professional development session. In addition, I will submit my finalized research to Middle View School District. Finally, I will consider larger venues in which I can share my research. I will apply to present at regional and state conferences, such as EdTech or EdCamp, or I may attempt to share in more widely known settings, such as the International Society for Technology in Education (ISTE) conference. I will protect the participants' identity and confidentiality by using pseudonyms when names are needed

for clarification, limiting information so that individuals are not easily identified, and removing names from any example surveys and/or questionnaires I use in my presentations.

CHAPTER 4

ANALYSIS AND FINDINGS

The purpose of this action research was to describe students' understanding of cyberslacking and its academic and social effects in my English 3 Honors and Films Studies classes at Carraway High School. Both quantitative and qualitative data were collected to answer the following four research questions: (1) How frequently do students engage in cyberslacking during class? (2) In what kinds of cyberslacking activities do students engage during class? (3) What do students feel leads them to cyberslack? (4) What are students' perceptions of cyberslacking and its academic and social effects? This chapter presents the analysis and findings of data collected in the study based on the results of surveys, classroom observations, and focus group interviews with students. This chapter includes (a) quantitative analysis and findings and (b) qualitative analysis and findings.

Quantitative Analysis and Findings

Quantitative data were collected from two sources: (1) classroom observations and (2) student surveys. This section includes the method of analysis and findings for each instrument. These findings consist of descriptive statistics.

Observations

Two observations were conducted by my DLC in each of three classes over the course of the semester for a total of six observations. The courses observed were two sections of English 3 Honors (n = 4) and one section of Film Studies (n = 2). The

observer selected five areas of the classroom to observe for nine minutes each, noting the cyberslacking activities in which students engaged, devices used, method of observation (direct or through Apple Classroom), duration of cyberslacking events, location of the teacher, and class activities during each observation cycle. She indicated her observations on a checklist (See Appendix A). The data collected on the checklists were transferred into Google Sheets and analyzed for descriptive statistics.

The first section of the observation protocol was Cyberslacking Activities. Descriptive statistics for this category across all six observations are ranked in Table 4.1. The most prevalent cyberslacking diversion was texting, which encompassed on average 39% (M = 8.67; SD = 5.35) of all cyberslacking events observed across six observations. Snapchat was also a popular choice, representing 29% (M = 6.50; SD = 4.51) of the activities noted by the observer. Sixteen percent (M = 3.67; SD = 3.33) of off-task behavior was something other than the choices on the observation checklist. The observer noted that these consisted of such behaviors as searching through or listening to music, looking at themselves in the camera, looking at photographs, working on another assignment, or unknown activities that could not be determined through observation. Other activities listed on the observation checklist made up small percentages of cyberslacking events in comparison, and neither Twitter nor Facebook were observed at all. Additionally, Figure 4.1 presents the number of noted cyberslacking activities for each observation separately. Although Snapchat, texting, and other activities constituted the majority of events when observations were considered together, there was a wide variety in the number of times these activities were observed from one observation to the next.

Table 4.1 *Descriptive Statistics for Observed Cyberslacking Activities (n = 6)*

Activity	**Percent**	***M***	***SD***
Texting	39%	8.67	5.35
Snapchat	29%	6.50	4.51
Other	16%	3.67	3.33
Gaming	5%	1.17	1.47
Watching videos	3%	0.67	1.63
Instagram	2%	0.50	0.84
Email	2%	0.50	0.55
Surfing the internet	1%	0.33	0.52
Taking pictures	1%	0.33	0.82
Video chatting	1%	0.17	0.41

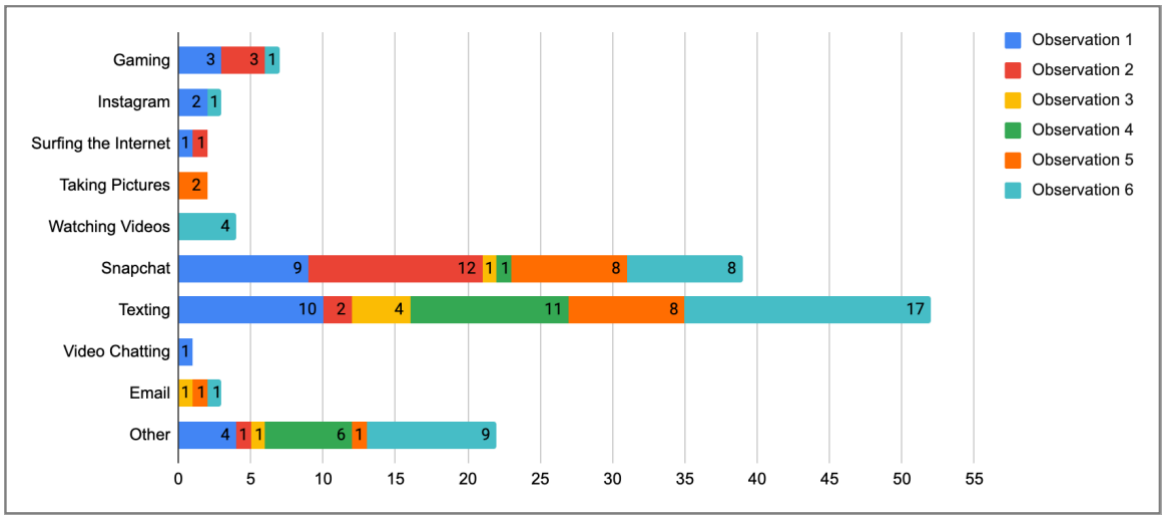

Figure 4.1. Number of Noted Cyberslacking Activities in Individual Observations

The second section on the observation checklist allowed the observer to indicate what kind of device was being used for cyberslacking. Descriptive statistics for this section are presented and ranked in Table 4.2. Seventy-seven percent (*M* = 9.67; *SD* = 3.27) of cyberslacking events across six observations occurred through the use of cell phones. Apple iPads were used in 20% (*M* = 2.50; *SD* = 2.07) of the off-task behaviors noted during observations. The only other devices observed to be in use were

smartwatches, although they were only utilized in 3% (*M* = 0.33; *SD* = 0.52) of the cyberslacking recorded.

Table 4.2 *Descriptive Statistics for Observed Devices Used for Cyberslacking (n = 6)*

Device	**Percent**	***M***	***SD***
Cell phone	77%	9.67	3.27
Apple iPad	20%	2.50	2.07
Smart watch	3%	0.33	0.52

The method of observation was also marked on the observation protocol. Descriptive statistics for this category are illustrated in Table 4.3. The observer utilized two methods of gathering information: (1) directly observing and (2) digitally monitoring students' Apple iPads through the use of the Apple Classroom app. It was noted that an average of 82% (*M* = 10.33; *SD* = 2.25) of cyberslacking occurrences were directly observed, while 18% (*M* = 2.33; *SD* = 2.07) were noticed in Apple Classroom.

Table 4.3 *Descriptive Statistics for Observation Method (n = 6)*

Method	**Percent**	***M***	***SD***
Directly Observed	82%	10.33	2.25
Apple Classroom	18%	2.33	2.07

For cyberslacking incidents within each three-minute period, the observer made note of the total duration of each event. Table 4.4 presents descriptive statistics for this portion of the observation data. A majority of 49% (*M* = 5.33; *SD* = 3.14) of all cyberslacking events lasted for less than one minute. The next largest portion, 25% (*M* = 2.67; *SD* = 2.88), extended beyond three minutes. The remaining notations indicated that 14% (*M* = 1.50; *SD* = 1.05) of cyberslacking events lasted between one and two minutes, and 12% (*M* = 1.33; *SD* = 1.86) continued for between two and three minutes.

Table 4.4 *Descriptive Statistics for Duration of Observed Cyberslacking Events (n = 6)*

Duration	**Percent**	***M***	***SD***
<1 min	49%	5.33	3.14
1-2 min	14%	1.50	1.05
2-3 min	12%	1.33	1.86
>3 min	25%	2.67	2.88

Note. Numbers represent the number of events that lasted for the indicated duration.

The observer also noted my location for each three-minute observation window. Table 4.5 ranks my location during situations in which cyberslacking occurred. During these events, I was most often at the front of the room, constituting an average of 37% (*M* = 4.33; *SD* = 2.94) of cyberslacking events across all six observations. This location was followed by the back of the room in 24% (*M* = 2.83; *SD* = 2.79) of events and circulating the room in 20% (*M* = 2.33; *SD* = 1.86) of instances. Although some cyberslacking occurred while I was at my desk — 13% (*M* = 1.50; *SD* = 1.38) — or the conference table — 6% (*M* = 0.67; *SD* = 1.63), these were small percentages in comparison.

Table 4.5 *Descriptive Statistics for Location of Teacher During Observed Cyberslacking (n = 6)*

Location	**Percent**	***M***	***SD***
Front of Room	37%	4.33	2.94
Other: Back of Room	24%	2.83	2.79
Circulating	20%	2.33	1.86
Teacher Desk	13%	1.50	1.38
Conference Table	6%	0.67	1.63

Table 4.6 displays my location during moments in which no cyberslacking was happening. Interestingly, two locations equally made up an average of 25% each of my location during times when no cyberslacking was observed: the teacher's desk (*M* = 1.00; *SD* = 1.10) and circulating among students (*M* = 1.00; *SD* = 1.26). In addition, three

locations constituted 17% each: the front of the room (*M* = 0.67; *SD* = 0.82), the conference table (*M* = 0.67; *SD* = 1.63), and the back of the room (*M* = 0.67; *SD* = 1.21).

Table 4.6 *Descriptive Statistics for Location of Teacher During Cycles with No Observed Cyberslacking (n = 6)*

Location	**Percent**	***M***	***SD***
Teacher Desk	25%	1.00	1.10
Circulating	25%	1.00	1.26
Front of Room	17%	0.67	0.82
Conference Table	17%	0.67	1.63
Other: Back of Room	17%	0.67	1.21

Class activity was also noted on the observation checklist for each three-minute observation time period. Table 4.7 illustrates the characteristics of the class activity that was occurring during moments when cyberslacking was observed. First, it was marked as to whether the activity was whole-class, small group, or individual. Most of the cyberslacking took place during whole-class instruction — 56% (*M* = 6.67; *SD* = 4.18). However, it was noted that students were working individually 35% (*M* = 4.17; *SD* = 2.79) of the time when cyberslacking was observed, and only 8% (*M* = 1.00; *SD* = 0.89) of cyberslacking happened during small group activities. The observer also indicated whether technology was required or not during each observation window. Technology was not required an average of 55% (*M* = 6.17; *SD* = 3.76) of the times during which cyberslacking was observed, and technology was a requirement for the activity 45% (*M* = 5.00; *SD* = 4.05) of the times.

Table 4.7 *Descriptive Statistics for Class Activity During Observed Cyberslacking (n = 6)*

Class Activity	**Percent**	***M***	***SD***
Whole-Class	56%	6.67	4.18
Small Group	8%	1.00	0.89
Individual	35%	4.17	2.79

Class Activity	Percent	*M*	*SD*
Technology Required	45%	5.00	4.05
Technology Not Required	55%	6.17	3.76

Data for class activity during which no cyberslacking was observed was also collected. This information can be found in Table 4.8. Forty-eight percent (*M* = 1.83; *SD* = 2.14) of the cyberslacking-free observation periods occurred when the activity at hand was whole-class. However, students were working individually in 44% (*M* = 1.67; *SD* = 1.37) of the instances when no cyberslacking occurred. Only 9% (*M* = 0.33; *SD* = 0.52) of the time with no cyberslacking observed was spent in small group activities. Seventy-four percent (*M* = 2.83; *SD* = 2.23) of observation windows without cyberslacking, technology was not required. Technology was required 26% (*M* = 1.00; *SD* = 0.89) of the time.

Table 4.8 *Descriptive Statistics for Class Activity During Cycles with No Observed Cyberslacking (n = 6)*

Class Activity	Percent	*M*	*SD*
Whole-Class	48%	1.83	2.14
Small Group	9%	0.33	0.52
Individual	44%	1.67	1.37
Technology Required	26%	1.00	0.89
Technology Not Required	74%	2.83	2.23

Survey

In addition to observations, students' perceptions were collected through anonymous surveys. Students answered sixteen closed-ended questions about their cyberslacking activities, what motivated them to participate in cyberslacking, and their perceptions of cyberslacking in general. Students completed the survey anonymously

twice — on separate days, five weeks apart. They responded to the items based on their own and/or their classmates' cyberslacking activities on that particular day in that specific class period. One hundred, seventeen responses from 59 students were analyzed across both surveys. Data were entered into a spreadsheet and imported into JASP, a program for statistical analysis. An average was calculated for the responses to each item, excluding demographics, and frequencies for each answer were calculated using JASP.

Items 1 to 4 of the survey consisted of demographic information. Tables 4.9 through 4.12 illustrate the demographic information for survey participants. Respondents were 56% (n = 33) female and 44% (n = 26) male. Seventy-one percent (n = 42) of students were white, 12% (n = 7) African American, 7% (n = 4) Latin American, 5% (n = 3) Asian, and 5% (n = 3) indicated "Other" for their ethnicity. In addition, participants' ages ranged from 15 years old to 18 years old. Twenty-nine percent (n = 17) of students were age 15, 44% (n = 26) were 16, 22% (n = 13) were 17, and 5% (n = 3) were 18. Survey respondents were in grades 10 (58%; n = 34), 11 (25%; n = 15), and 12 (17%; n = 10).

Table 4.9 *Demographics of Participants: Gender (n = 59)*

Gender	**Frequency**	**Percentage**
Female	33	56%
Male	26	44%

Table 4.10 *Demographics of Participants: Ethnicity (n = 59)*

Ethnicity	**Frequency**	**Percentage**
White	42	71%
African American	7	12%
Latin American	4	7%
Asian	3	5%
Other	3	5%

Table 4.11 *Demographics of Participants: Age (n = 59)*

Age	Frequency	Percentage
15	17	29%
16	26	44%
17	13	22%
18	3	5%

Table 4.12 *Demographics of Participants: Grade (n = 59)*

Grade	Frequency	Percentage
10	34	58%
11	15	25%
12	10	17%

Survey Items 5 to 7 asked students to recall the frequency of their cyberslacking in my class on the days of the surveys. The responses for both surveys were averaged. Eighty-eight percent of students reported cyberslacking in these items, while 12% reported that they did not engage in cyberslacking at all. Table 4.13 illustrates the proportions for the number of cyberslacking events students reported in their surveys. The highest numbers of students specified that they participated in cyberslacking either once (19%) or twice (19%). Seventeen percent of students reported cyberslacking three times. Twelve percent of students marked their frequency of cyberslacking at four times. Only 5% of responses indicated students cyberslacked five times in the class period. However, 15% selected "more than 5 times" on their survey. Descriptive statistics for Item 5 are shown in Table 4.14. The scale ranged from 0: I did not engage in cyberslacking to 6: More than 5 times. The mean for responses to this item was 2.58 (*SD* = 1.70), which means that students admitted to cyberslacking between two and three times during that class period.

Students also reported the duration of their cyberslacking events. Table 4.15 illustrates the proportions for self-reported duration of cyberslacking events. The

Table 4.13 *Proportions for Number of Self-Reported Cyberslacking Events (n = 59)*

Answer	Mean Frequency	Percentage
I did not engage in cyberslacking today in class.	7.5	13%
1 time	11	19%
2 times	11	19%
3 times	10	17%
4 times	7	12%
5 times	3	5%
More than 5 times	9	15%

Table 4.14 *Descriptive Statistics for Item 5*

Question	Mean	SD
Q5: How many times did you engage in cyberslacking in this class period today?	2.58	1.70

majority of responses (49%) indicated that students spent less than one minute off-task each time they cyberslacked. Twenty-three percent of participants marked one to two minutes for their duration. Cyberslacking events lasting between two and three minutes constituted 10% of the responses. Only 6% of the responses showed a duration of more than three minutes. Descriptive statistics for Item 6 of the survey are shown in Table 4.16. The scale ranged from 0: I did not engage in cyberslacking to 4: More than 3 minutes. The mean response was 1.50 (*SD* = 1.03), which shows that students acknowledged being off-task mostly between less than one minute and up to two minutes.

Table 4.15 *Proportions for Self-Reported Duration of Cyberslacking Events*

Answer	Mean Frequency	Percentage
I did not engage in cyberslacking in class.	7	12%
Less than 1 minute	28.5	49%
1-2 minutes	13.5	23%
2-3 minutes	6	10%
More than 3 minutes	3.5	6%

Additionally, students reported the total time they spent cyberslacking. This information is reported in Table 4.17. Forty-three percent of respondents indicated they

Table 4.16 *Descriptive Statistics for Item 6*

Question	Mean	SD
Q6: When you engaged in cyberslacking, about how long did it last each time?	1.50	1.03

spent between one and five minutes of the 83-minute class cyberslacking. Twenty-one percent of responses showed a total of less than one minute of cyberslacking. Totals between six and 10 minutes made up 15% of responses. Few participants indicated that they spent more than 10 minutes cyberslacking. Descriptive statistics for Item 7 of the survey are shown in Table 4.18. This Item used a scale ranging from 0: I did not engage in cyberslacking to 5: More than 15 minutes. The mean for answers to this item was 1.95 (*SD* = 1.25), which means that students admitted to cyberslacking mostly between one and five minutes total.

Table 4.17 *Proportions for Self-Reported Total Time Spent Cyberslacking*

Answer	Mean Frequency	Percentage
I did not engage in cyberslacking in class.	7	12%
Less than 1 minute	12.5	21%
1-5 minutes	25	43%
6-10 minutes	8.5	15%
11-15 minutes	1.5	3%
More than 15 minutes	4	7%

Table 4.18 *Descriptive Statistics for Item 7*

Question	Mean	SD
Q7: About how much time total do you estimate you spent cyberslacking today in class?	1.95	1.25

Participants also reported the activities in which they engaged when they chose to cyberslack. Figure 4.2 illustrates the percentage each diversion represented among all activities in which students indicated they participated. The 13% of students who indicated they did not participate in cyberslacking during the class period were not

included in the analysis of this data. The most common activity was texting, representing 27% of all cyberslacking. Eighteen percent of cyberslacking was enacted using Snapchat, and 15% occurred on Instagram. Gaming, Facebook, Twitter, surfing the internet, taking selfies, personal emails, and watching videos were also activities students indicated they engaged in, albeit in small percentages. Twelve percent of cyberslacking was made up of activities not on the survey, but students wrote in such diversions as "checking my grades," "reading an eBook," "working on assignments for another class," and "checking myself out in the camera."

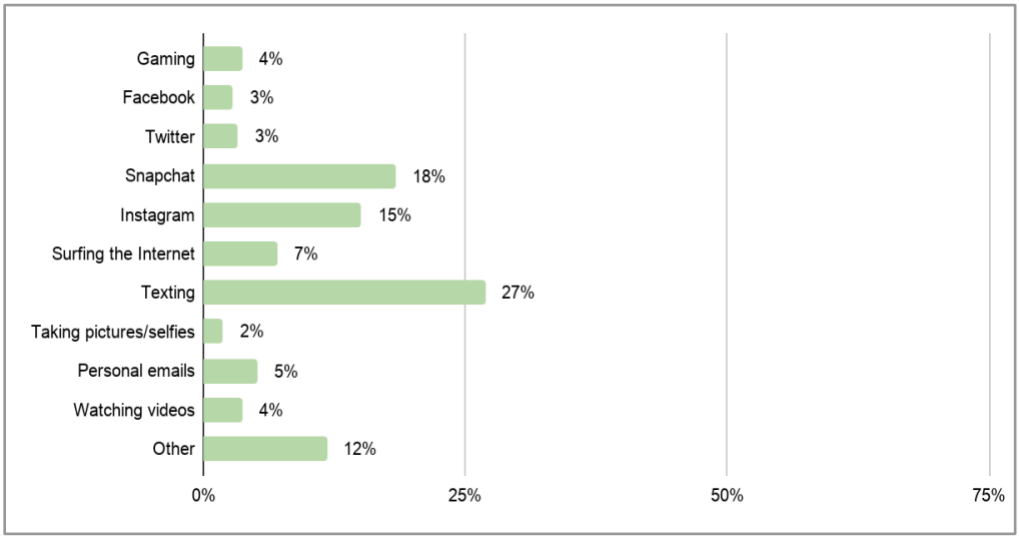

Figure 4.2. Percentages for Reported Cyberslacking Activities

Respondents who reported that they did engage in cyberslacking were also asked to indicate which device they used for their off-task behavior. The percentages for each device represented are depicted in Figure 4.3. Seventy-three percent of cyberslacking was completed using a cell phone. Apple iPads were used in 22% of cyberslacking events. Only 5% of cyberslacking occurred through the use of smartwatches.

The percentages for reported network use during cyberslacking are illustrated in Figure 4.4. Sixty-six percent of cyberslacking occurred on a cellular network. The

school network was used for 28% of off-task activities, and 6% of students' cyberslacking did not require network access at all.

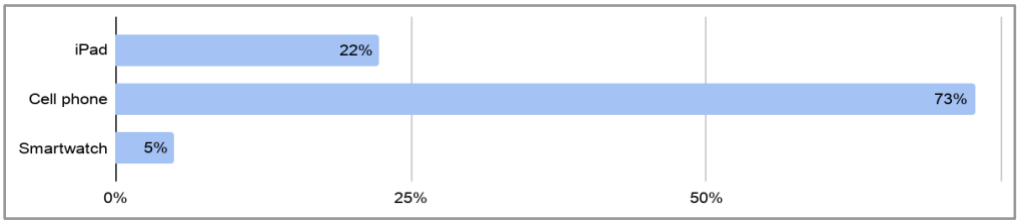

Figure 4.3. Percentages for Devices Used for Cyberslacking

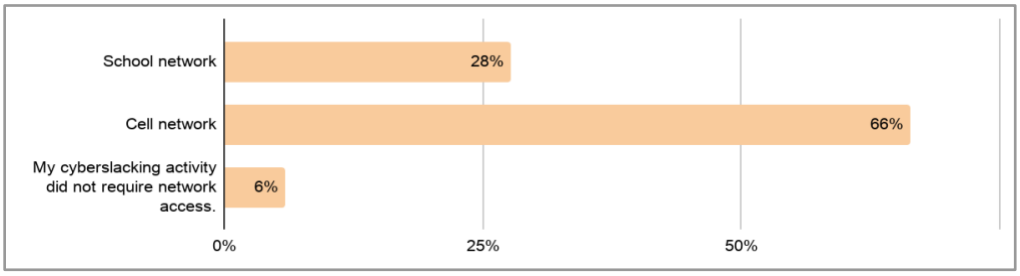

Figure 4.4. Percentages for Reported Network Used for Cyberslacking

In addition, participants who indicated that they had cyberslacked during the class reported their personal motivation for off-task behavior. This information is presented in Figure 4.5. Boredom and notifications from their devices constituted 24% each of all reasons selected. Taking a break from work was selected 18% of the time, and students were driven by habit in 14% of the cyberslacking events. Ten percent of diversions were due to personal business respondents felt could not wait. Other choices on the survey were related to anxiety, missing out on something important, and peer pressure; however, these motivations constituted very few of the responses. Six percent of participants selected "Other" and listed such reasons as "to wake up," "other work due today," or that they "didn't feel like reading the assigned novel."

Students who chose to cyberslack in the class period were asked to mark the negative effects they felt their off-task behavior had for them. Figure 4.6 shows the

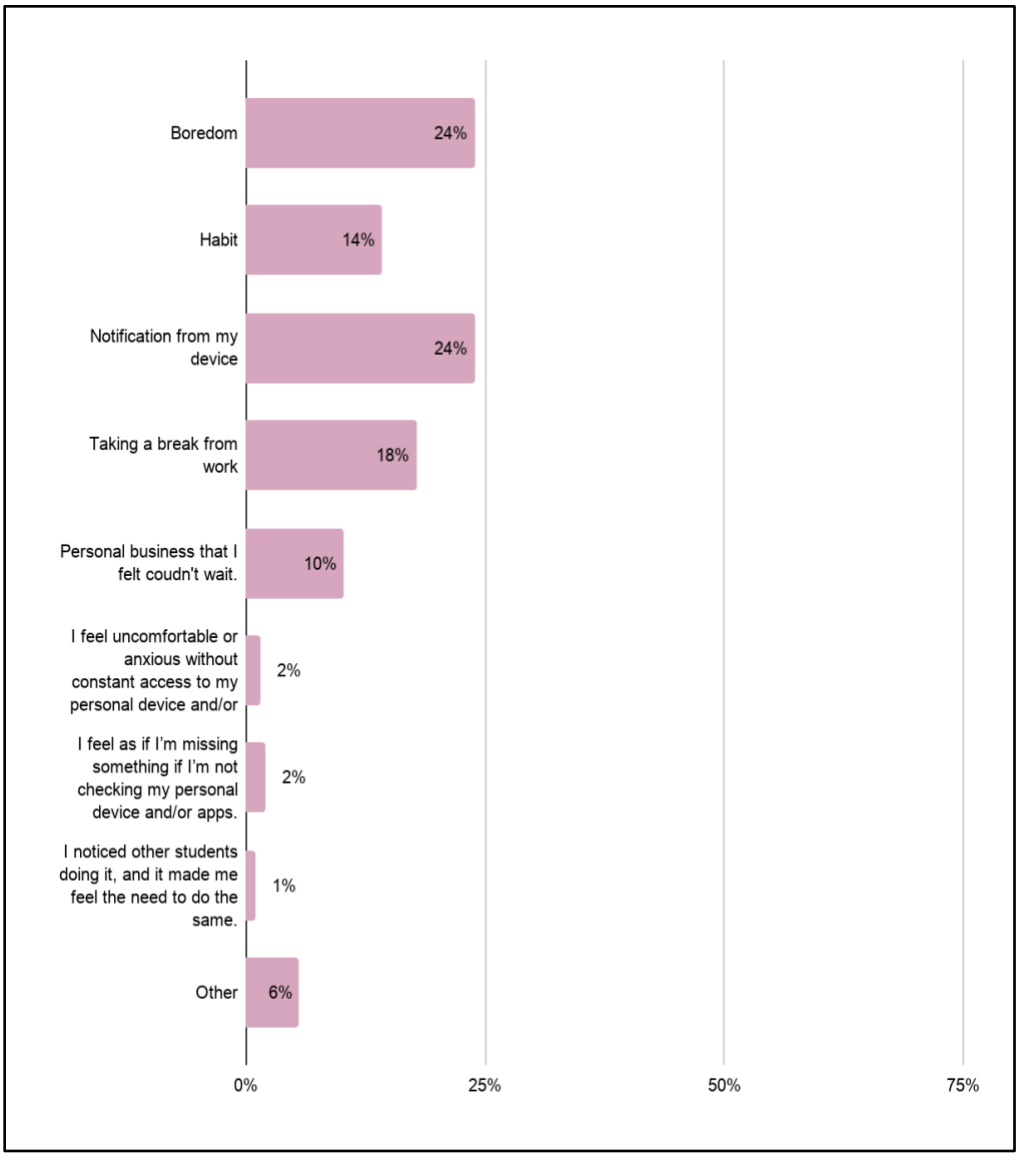

Figure 4.5. Percentages for Reported Motivation to Cyberslack

percentages for the negative effects reported by respondents. A majority of responses (44%) showed that participants did not feel that their behavior had any negative effects. Those who did feel they experienced a negative consequence noted that their concentration and attention were affected 15% of the time. In addition, 15% of responses indicated that students believed their cyberslacking was detrimental to my perception of them as a student. Smaller percentages (between 2% and 7%) identified class participation, group collaboration, completion of an assignment, quality of an assignment,

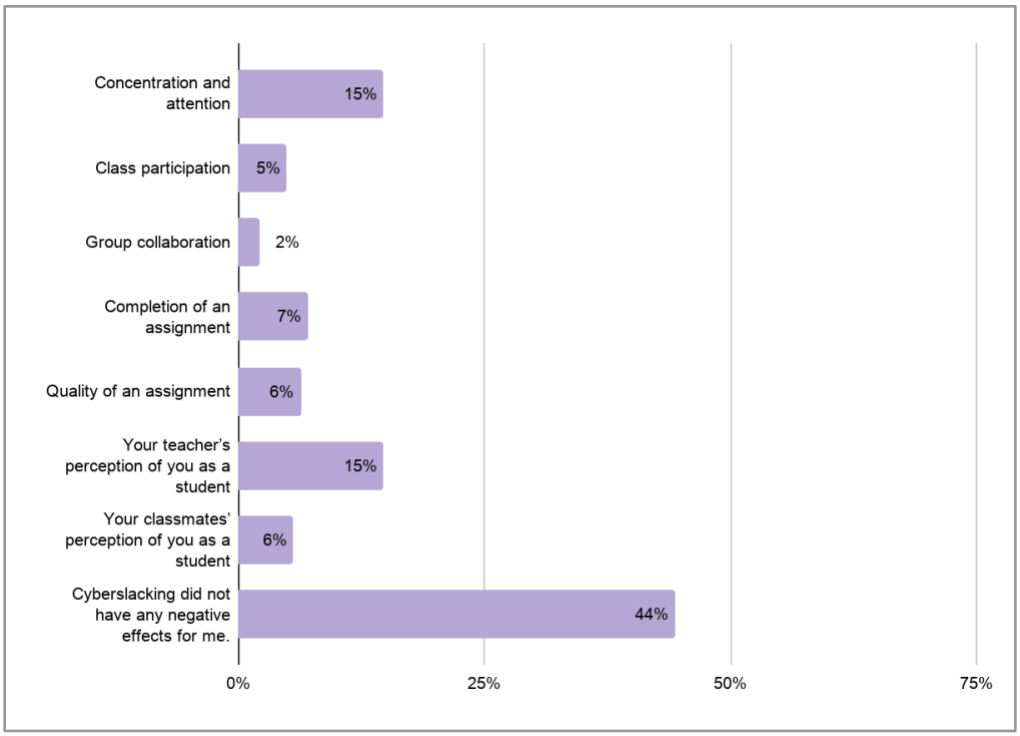

Figure 4.6. Percentages for Reported Negative Effects of Personal Cyberslacking

and their classmates' perception of them as a student as being unfavorably impacted. "Other" was also an option on the survey, but no participants selected this choice.

In addition to the negative consequences, students were also asked about any positive effects they experienced due to cyberslacking. Figure 4.7 presents the percentages of reported positive effects of cyberslacking. Those who indicated that they did engage in off-task behaviors felt it kept them from being overwhelmed by classwork 27% of the time. Twenty-one percent of respondents indicated a reduction in worry. Anxiety/stress relief was marked 18% of the time, and 11% of participants felt their cyberslacking helped them maintain a relationship. Small percentages of responses indicated taking time off-task improved their reputation in front of other students (1%) or some other positive consequences (4%), such as alleviating boredom, learning something interesting (but unrelated to class), or it helped them stay awake.

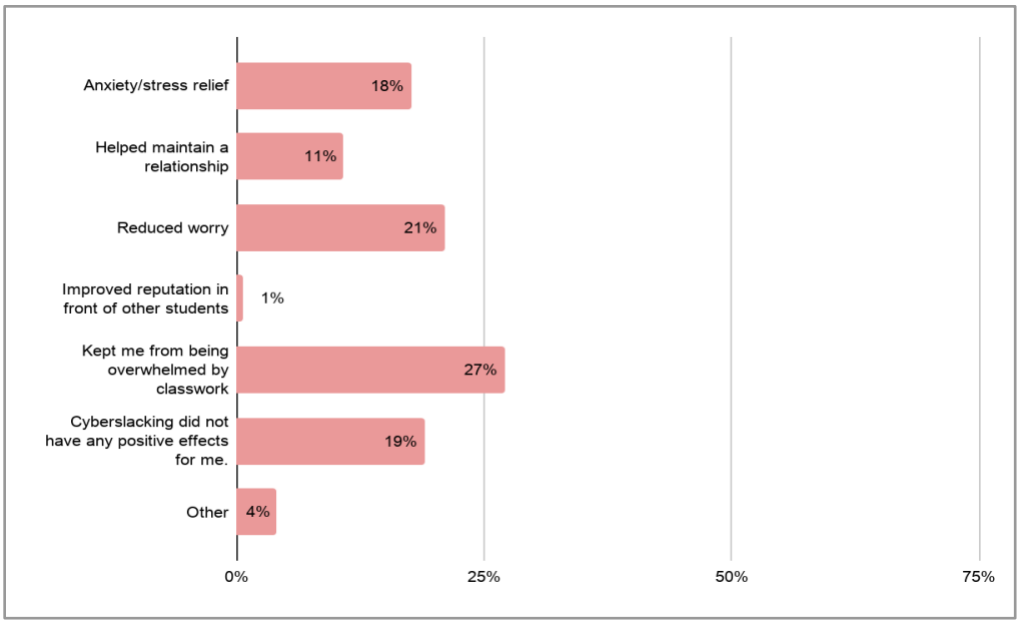

Figure 4.7. Percentages for Reported Positive Effects of Personal Cyberslacking

Participants also reported their feelings about their cyberslacking activities. This information is presented in Table 4.19. Although there were five selections on the survey, only three of them were chosen by respondents. Sixty-seven percent of responses (*n* = 78) indicated that students believe they are good enough at multitasking that cyberslacking is inconsequential. Twenty-three percent (*n* = 27) marked that they know they should not engage in cyberslacking, but they do it regardless. Ten percent (*n* = 12) of participants indicated that they did not cyberslack in class. Some students who previously indicated they did not engage in cyberslacking selected a different option for this item.

Table 4.19 *Self-Reported Feelings About Their Cyberslacking Activities*

Feeling	**Frequency**	**Percentage**
I am good at multitasking, so cyberslacking is no big deal.	78	67%
I know it isn't good to cyberslack, but I do it anyway.	27	23%
I did not engage in cyberslacking in class.	12	10%

Furthermore, all participants, whether or not they personally engaged in cyberslacking, were asked to report how *other* students' cyberslacking behavior affected them negatively. The percentages for these negative effects are depicted in Figure 4.8. Students predominantly felt that other students' off-task activities did not affect them at all (43%), or they did not notice other students cyberslacking (21%). However, of those who did believe they were influenced by cyberslacking around them, 10% perceived their concentration and attention to be diminished. They also indicated their own tendency to cyberslack (7%) was impacted. In addition, respondents indicated that group work was negatively affected by other students being off-task, including the quality of a group assignment (6%), group collaboration (5%), and completion of a group assignment (4%).

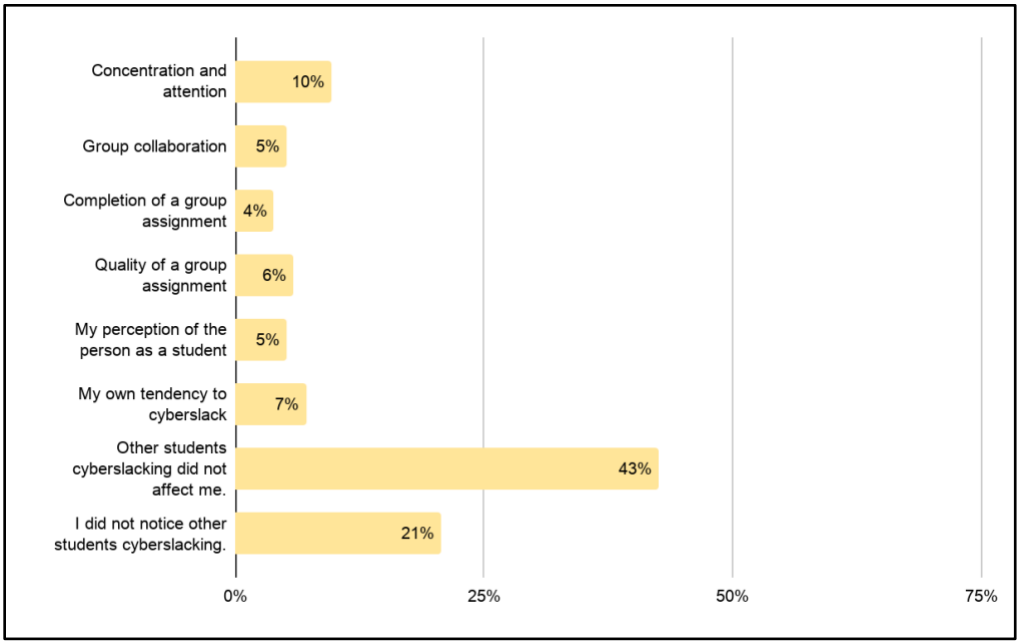

Figure 4.8. Percentages for Reported Negative Effects of Classmates' Cyberslacking

Lastly, participants determined how their or other students' cyberslacking behaviors impacted me as their teacher. Figure 4.9 presents this information. The most students selected that it made me see those students in a negative light (18%). They also

indicated that I felt disrespected (17%), frustrated (14%), or angry (7%) with cyberslackers. Eleven percent felt that I had to spend more time keeping cyberslackers on task, and 8% reported that they felt it hurt my feelings. Some respondents thought I did not even notice the behavior (8%), or that if I did notice, it did not affect me at all (16%).

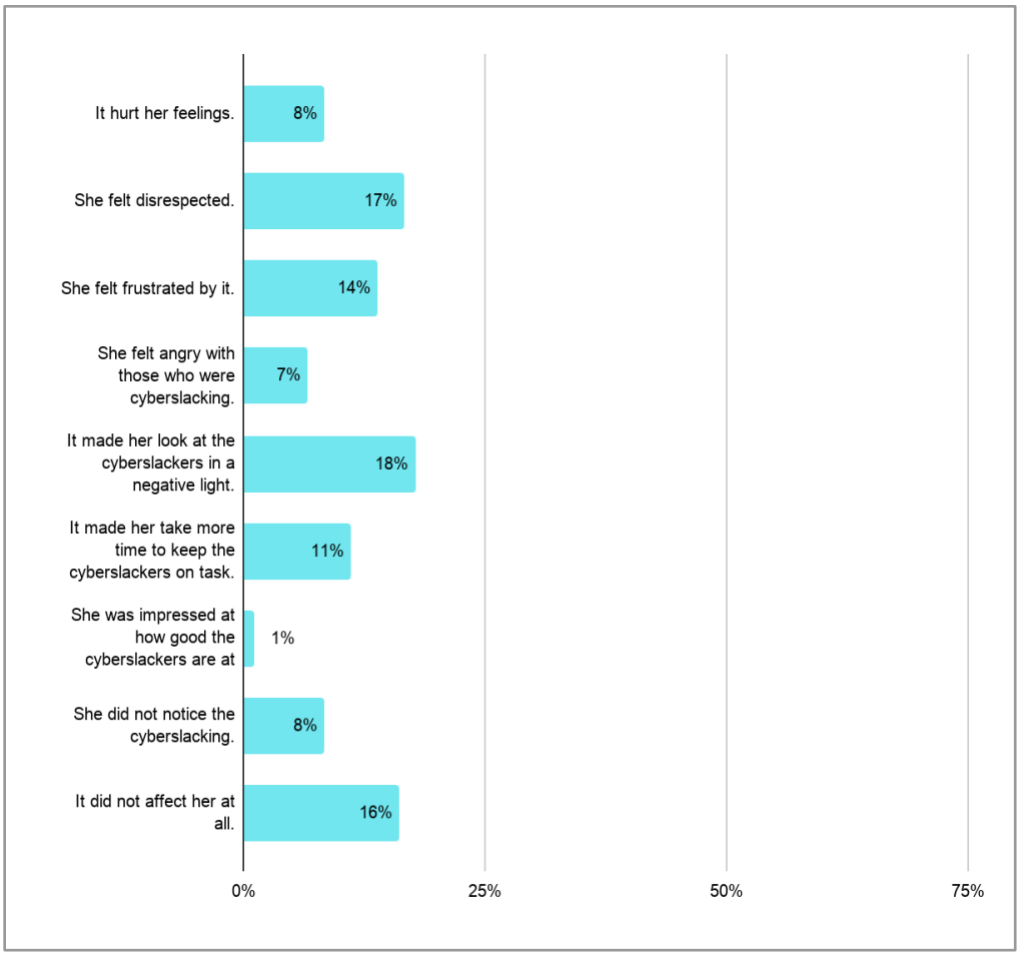

Figure 4.9. Percentages for Reported Perceptions of the Effect of Cyberslacking on Teacher

Based on observation data, about 23 instances of cyberslacking occurred in each 45-minute observation. The observer noted and students reported that texting constituted the majority of the off-task behavior. In addition, cell phones and a cellular network are the preferred tools for cyberslacking. Most cyberslacking occurred for less than one

minute, usually because of boredom or a notification from a device. As recorded in the observation, very little cyberslacking took place during small group activities. Furthermore, surveys show that students believe they are good at multitasking and do not think there is a negative effect, either from their own cyberslacking or that of their classmates. In fact, most students feel that cyberslacking actually has a positive consequence for them.

Qualitative Analysis, Findings, and Interpretations

The qualitative data sources used in this study were three focus group interviews, which included five students each. I conducted these focus group interviews to understand students' thoughts about cyberslacking, what kinds of cyberslacking in which they engage, what influences their cyberslacking behaviors, and what they believe the effects of cyberslacking are on themselves and others. These interviews were semi-structured and conducted in an informal and conversational style. They were audio recorded and transcribed verbatim in the students' own words. Thirteen codes and 213 subcodes were applied, which illustrates the richness of this data set (see Table 4.20). The following topics are discussed in this section: (1) qualitative data analysis and (2) qualitative themes.

Table 4.20 *Summary of Qualitative Data Sources*

Types Qualitative Data Sources	**Number**	**Total Number of Codes Applied**
Focus group interviews transcripts	3	226
Totals	3	226

Qualitative Data Analysis

The overall process I used to analyze the interview data was inductive analysis, which involves three basic steps, as outlined by Mertler (2017): organization,

description, and interpretation. After creating a verbatim transcript from the recordings, I used Delve (2019), a web-based qualitative analysis tool, to complete the coding of my qualitative data. I coded individual statements from each participant and combined longer sections of conversations that related to the same code. For first cycle coding of my focus group interviews, I began with structural coding, in which the researcher applies content-based or conceptual phrases to categorize data as it relates to specific research questions (MacQueen, McLellan-Lemal, Bartholow, & Milstein, 2008). I also employed methodological coding (Bogdan & Biklen, 2003) by creating a code for each of my four research questions. These codes were *frequency and duration*, *activities*, *motivations*, and *perceptions*. During coding, other conceptual codes also became apparent. In addition to the above major codes, the following also surfaced: *avoiding cyberslacking*, *avoiding getting caught*, *class arrangement*, *devices*, *effects on others*, *grades and assignments*, *multitasking*, *teachers*, and *when others cyberslack*. I applied these codes to segments and chunks of the transcript. Figure 4.10 shows first round codes being applied in Delve.

As first round analysis progressed, I also applied in vivo coding. In vivo codes are directly extracted from the language of participants (Strauss, 1987). Since this study is focused on the perceptions of students, in vivo coding was helpful in "prioritiz[ing] and honor[ing] the participant's voice" (Saldaña, 2016, p. 106) and producing a more powerful analysis of the phenomenon being observed (Saldaña, 2016). Numerous in vivo codes emerged throughout the analysis, and these codes were nested under the major codes as subcodes. Figure 4.11 portrays in vivo coding as it occurred in Delve. In

addition, Table 4.21 illustrates the codes and subcodes that emerged over the course of analysis in Delve.

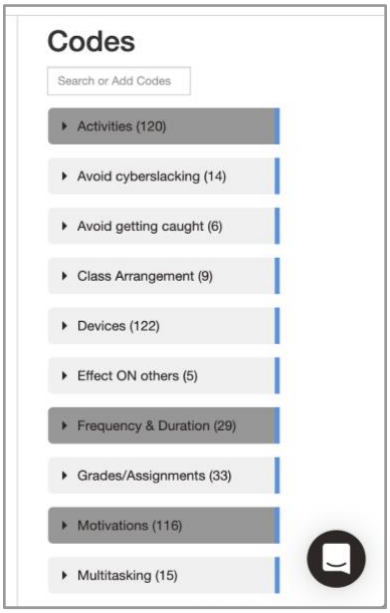

Figure 4.10. First Round Coding in Delve

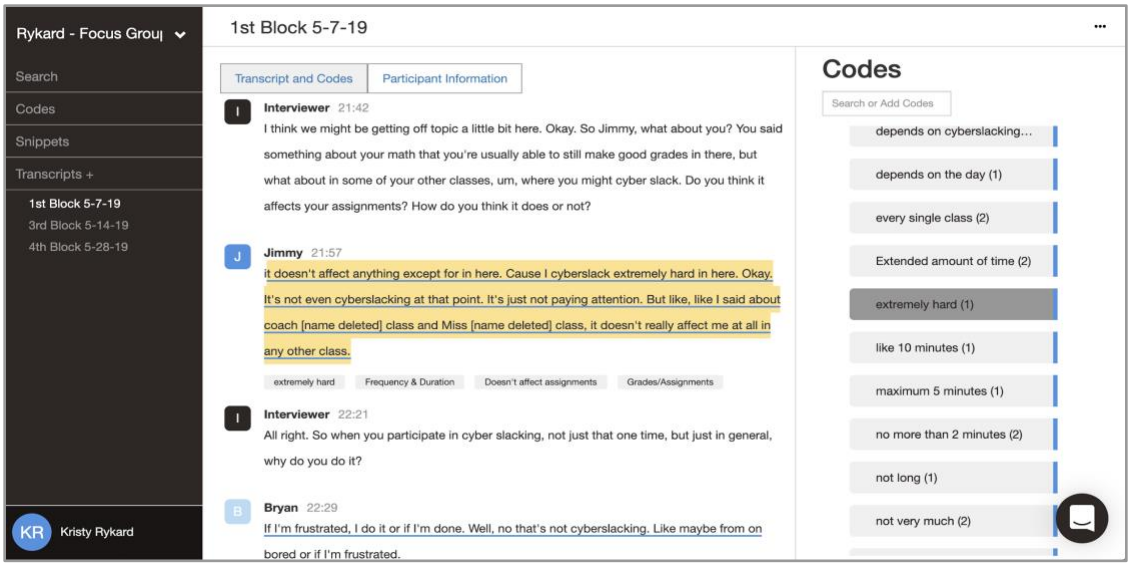

Figure 4.11. In Vivo Coding in Delve

Table 4.21 *First Round Codes and In Vivo Subcodes*

First Round Codes	In Vivo Subcodes
Activities	● A lot of people do it ● Activity depends on class ● Assignments ● Cellular network ● Domino effect ● Educational purposes ● Email ● Fun ● Games ● Just checking ● Look at myself in camera ● Look things up ● Looking at houses ● Memes ● Music ● Netflix ● News ● Phone call ● Reminders ● Shopping ● Social media ● Stare at phone ● Texting ● VPN ● Watch videos ● YouTube
Avoiding cyberslacking	● Airplane mode ● Do not disturb ● Gotta focus ● I know I need to pay attention ● Lock bag ● Low grades ● Not a subject I'm good at ● Parents monitor ● Parents teach not to rely on tech ● Phone in a box and lock it

First Round Codes	In Vivo Subcodes
	● Phone in locker ● Plug it up across the room
Avoiding getting caught	● Blue line means they're watching ● Stop when teacher is around ● Turn down brightness ● Turn off Bluetooth
Class arrangement	● Group work ● Move at your own pace ● Not doing anything else ● You pick up the slack
Devices	● Headphones ● iPads ● Phone ● Smart watch
Effect on others	● Affects person beside me ● Depends on the person ● Only affects them if you involve them ● Shouldn't affect others
Frequency and duration	● 30 seconds or less ● 5-10 minutes ● A couple seconds ● A lot ● About five times ● All of my classes ● All the time ● Daily basis ● Depends on class ● Depends on class activity ● Depends on cyberslacking activity ● Depends on the day ● Every single class ● Extended amount of time ● Extremely hard ● Like 10 minutes

First Round Codes	In Vivo Subcodes
	• Maximum five minutes • No more than two minutes • Not long • Not very much • Periodically • Probably like 20 • Several times • So quick • The whole class • Til I get caught
Grades and assignments	• Bad grades • Do better in classes with rules against phones • Do my work • Doesn't affect assignments • Failed a test • Get behind • Got lucky • Lower grades • Miss something • Negative effect on assignment • Not getting work done • Settling for lower grades • Still did the work
Motivations	• Access to devices • Addiction • Alleviate stress • Anxiety • Attached to it • Boring • Busy work • Can't focus long • Chill • Comfortable with assignment • Doing bad in class • Don't understand material • Done with my work • Downtime

First Round Codes	In Vivo Subcodes
	● Drama with friends ● During easy work ● Excitement about devices ● Feel left out ● Game day ● Get a notification ● Got frustrated ● Habit ● I don't know why ● Important stuff ● It just happens ● Knowing what's going on ● Lots of friends to keep up with ● Maturity level ● More entertaining than school ● Movie made me dizzy ● Need a break ● Not good at self-regulation ● Phone is part of my person ● Stay connected to the world ● Teacher talks too much ● Temptation ● Time of day ● Type of class ● Work is unimportant ● Worry
Multitasking	● Good at controlling myself ● I can multitask ● I can't multitask ● I got to do something ● I'm also doing work ● Not paying attention ● Still get my work done ● They get their work done
Perceptions	● A problem ● Depends on the frequency ● Distracts me

First Round Codes	In Vivo Subcodes
	● Don’t care if teacher sees ● Don’t care what others think ● Feel bad when teacher notices ● Good for us ● Grades go down ● Hiding phone ● I care what teachers think ● Interfere with learning ● It’s your learning ● Lazy ● More focused without phones ● No negative effect ● No negative feelings towards cyberslackers ● No negative feelings towards you ● No one expresses negative feelings about it ● Normal ● Not a good thing ● Not a problem ● Relaxing ● Rude ● School mode ● So bad ● Stressful ● Teachers’ negative perceptions ● They don’t do their work ● You don’t care
Teachers	● A slap in the face to teachers ● Against the rules ● Allow if you’re finished ● Allow phones for work ● Chill as long as not all the time ● Depends on the teacher ● Disappointed ● Doesn’t matter if teacher around ● Don’t care as long as we finish our work ● Don’t care during work ● Don’t mind ● Don’t teach

First Round Codes	In Vivo Subcodes
	• Don't use during instructions • Going through presentation • I know you want me to stop • No one listens to teacher • No rules • On phone • Put away if asked by teacher • Respect for teacher • Right behind me • Right in front of me • Staring at me • Strict • Teacher can see what we're doing • Teacher frustrated • Teacher not attentive • Teacher talking • They know I do my work • Walking around • Yell or embarrass you • You control your own learning
When others cyberslack	• I got to get my phone out • Minding their business • On phone and ignoring me • Others on social media • Others on Twitter • Others playing games • Others texting • Same stuff as me • See people on smartwatches • Using their phones • Work for other classes

In addition, first cycle coding employed simultaneous coding; therefore, more than one code may be applied to each segment (Saldaña, 2016) of data. In the course of discussion, most comments made by participants overlapped among several codes and subcodes. For example, some comments by students were coded as *activities*, *devices*,

class arrangement, and a*voiding getting caught* because one remark by a student could encompass all four of these concepts at the same time. The majority of segments were coded simultaneously. Figure 4.12 depicts simultaneous coding in Delve.

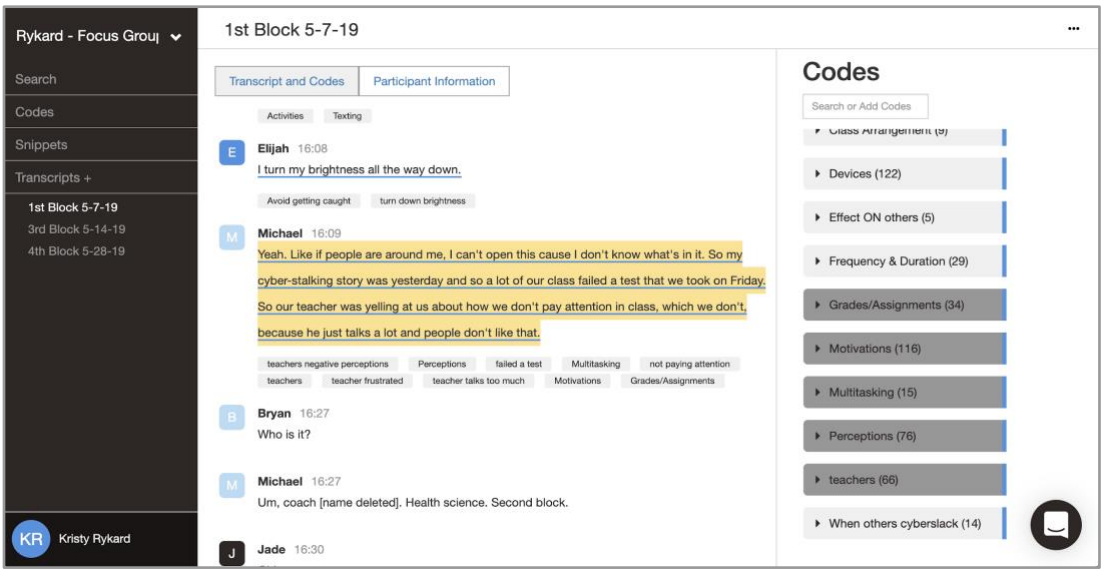

Figure 4.12. Simultaneous Coding in Delve

For second cycle coding, I used pattern coding to condense the codes and information from first cycle coding into fewer but more meaningful categories (Miles, Huberman, & Saldaña, 2014). After first cycle coding was complete, I examined the codes that had evolved using Delve and created some assertions to sort the codes into similar groups. I conducted peer debriefing at this point with both my student colleagues and my dissertation chair to obtain other perspectives and input on the creation of themes. This enabled me to determine which codes overlapped and which could be combined into distinct themes (Creswell, 2014). I combined interrelated codes into three defined themes indicative of participants' overall experience. These themes were (a) frequent and varied cyberslacking behaviors, (b) internal and external motivators for cyberslacking, and (c)

perceptions of cyberslacking and its effects. Figure 4.13 illustrates the combination of codes into themes.

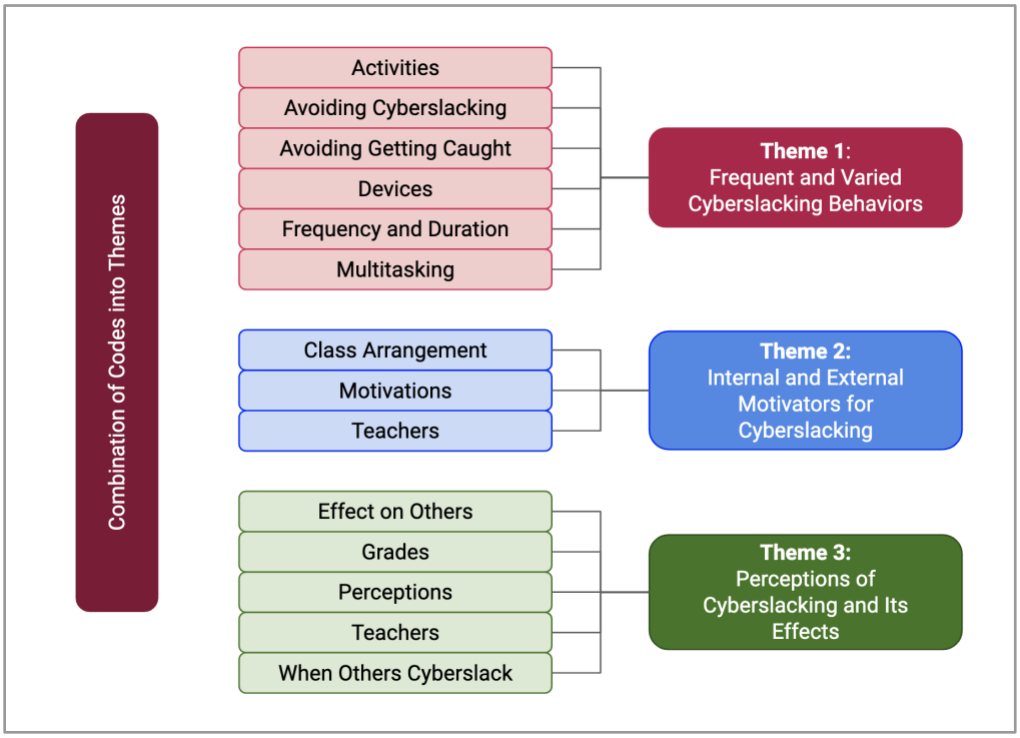

Figure 4.13. The Combination of Codes into Themes.

The codes *activities*, *avoiding cyberslacking*, *avoiding getting caught*, *devices*, *frequency and duration*, and *multitasking* were subsumed into Theme 1: Frequent and Varied Cyberslacking Behaviors. Each of these codes related to either the explicit behaviors students associated with cyberslacking, including specific activities in which they engaged, which devices they used to cyberslacking, certain actions they took to avoid getting caught or to avoid cyberslacking, how they multitasked, and how often and for how long they cyberslacked. Analysis showed that students engaged in cyberslacking frequently and connected a variety of behaviors with cyberslacking. Next, the codes *class arrangement*, *motivations*, and *teachers* were incorporated into Theme 2: Internal and External Motivators for Cyberslacking. Each of the segments linked to these codes

illuminated reasons that students cyberslack, including certain situations in group work and rules and regulations their teachers imposed. Finally, the codes *effects on others*, *grades*, *perceptions*, *teachers*, and *when others cyberslack* encompassed Theme 3: Perceptions of Cyberslacking and Its Effects. The data related to these codes revealed participants' personal understanding of cyberslacking in general and how cyberslacking impacted their classmates, teachers, and grades. The code *teachers* was split between Themes 2 and 3 because it contained elements of both.

Qualitative Themes and Interpretations

Over the course of all three focus group interviews, three themes emerged: (a) frequent and varied cyberslacking behaviors, (b) internal and external motivators for cyberslacking choices, and (c) perceptions of cyberslacking and its effects.

Frequent and varied cyberslacking behaviors. Previous research has shown that at some point during class time, a majority of students use technology to engage in activities that are not class-related (Currie, 2015; Jackson, 2013; Judd & Kennedy, 2011; Kraushaar & Novak, 2010; Portanova, 2014; Ragan et al., 2014). Students have in their hands an abundance of possible distractions (Harper & Milman, 2016; Preston et al., 2015), due to both their personal and school-issued devices, which often leads to cyberslacking behaviors. In this study, students associated a variety of behaviors with cyberslacking during class. Behaviors are defined as the ways in which students act or react regarding cyberslacking. These include (a) frequency and duration of cyberslacking, (b) specific cyberslacking activities, (c) the use of certain devices for cyberslacking, (d) multitasking, (e) avoiding detection while cyberslacking, and (f) resisting cyberslacking altogether.

Frequency and duration of cyberslacking. One idea students related to cyberslacking was the frequency and duration of their activities. Previous research shows that students typically cyberslack anywhere between 42% (Kraushaar & Novak, 2010) and 66% (Ragan et al., 2014) of class time. During focus group interviews, students were asked to estimate how often they cyberslack in class, and when they do engage in this off-task behavior, how long it lasts. Students' self-assessments showed that they cyberslack on a regular basis, although their tendency to do so depends on other factors. In their conversations, students often overlapped their discussion of frequency and duration with the situations in which they felt led to cyberslack and the types of activities in which they participated.

According to students' assessments of their cyberslacking frequency, how often and how long they cyberslacked was dependent on various factors. For example, Leilani expressed, "It depends on the day and, like, what you're doing in the class. 'Cause, like, some days you're doing more, like, work, and then … some days when I'm just doing so much work in a class, I don't even think about my phone." Juanita agreed that "it kind of depends on the class and what you're doing." Other students made similar comments or nodded their agreement at these assessments. In addition, participants indicated that the type of cyberslacking activity in which they were engaging may influence duration. Vanessa said, "Like, if I'm on Instagram, and I'm scrolling, going through, I'll see everything, and then I'll click my phone off then, but if I'm watching, like, a video or something, then it'll be longer." In addition, Susan indicated that she does not "usually ... watch anything, so it's just a couple seconds," which indicates that watching videos would require a longer period of cyberslacking. These estimations by participants

indicate that cyberslacking frequency and duration are dependent on both the activities going on around students and the type of cyberslacking in which they choose to engage.

Several students also indicated that although they mean for their forays into cyberslacking to be quick, often one activity leads to another, which causes their off-task behaviors to extend past their intended duration. Tyrone noted that "you might open [your phone] thinking, like, 'Oh, I'm just gonna check this thing and be done with it,' but then something else pops up." Leilani agreed:

> Yeah. Once you pick [your phone] up, even if you don't have, like, the intention of staying on it …. It's usually like five to 10 minutes because you're just, like, thinking about you want to text this person back, and then that reminds you of the other person that you forgot to text back. You just kind of can't stop unless you're forced to.

Angela gave an example of a recent time this happened to her. She said, "My friend Snapchatted me, so then I went to go check that Snapchat, and then I saw that someone else Snapchatted me … it's just, like, I got distracted. I went to Instagram and started scrolling through that." As noted by Aagard (2015), students' cyberslacking behaviors are often so deeply ingrained that they are pulled into these behaviors before they are even consciously aware that it is happening. Cyberslacking seems to be something in which the students in this study became absorbed, allowing time to get away from them unintentionally.

Eventually, participants' discussions did turn to more specific details for frequency and duration, and their answers varied. Angela indicated that she cyberslacked "probably, like, 20" times in an 83-minute class period, which is about once every four

minutes. Chad said he thinks his number was "maybe about five times." Some students indicated that it was too many times to count an exact number, using phrases such as "I do it all the time" or it "happens a good many times." *Every* student in the focus group interviews admitted to cyberslacking at some point in almost every class, unless their teacher made them leave their phone somewhere they could not reach it, such as in a lock box. When asked how long their bouts of cyberslacking lasted, Elijah said she felt like she was sometimes "on technology the whole class" and had recently gotten caught up in texting until it was "like, almost a whole class period, and [she] was like, 'Dang, what happened to my work?' " Jimmy admitted that he "cyberslack[ed] extremely hard" in my class and that "it's not even cyberslacking at [this] point; it's just not paying attention." This comment shows that, for Jimmy, cyberslacking had consumed his entire attention during class, and he no longer had an interest in being attentive at all.

Some students mentioned more specific numbers for the duration of their off-task behaviors. Jade said, "It's so quick. It's, like ... a 32 second, like, you're not even on it for, like, a minute." Other students indicated their sessions last between five and ten minutes, depending on the activity. Interestingly, Elijah, who previously stated she had recently texted for an entire class period, also said that her cyberslacking usually lasts "no more than, like, two minutes." According to Duncan et al. (2012), students tend to underreport the frequency of their own cyberslacking by about half. The variety of and sometimes contradictory answers from students in this study support this finding and suggest that participants' cyberslacking frequency and duration may not be something they could truly define from memory, and it may be that their perceptions and reality did not match.

Specific cyberslacking activities. Participants also associated the idea of cyberslacking to a variety of specific activities in which they participate when disengaged from learning through the use of their technology. For this study, activities are defined as off-task pursuits undertaken by students using their technology. Although cyberslacking activities were interwoven with frequency and duration in the focus group discussions, this category of behaviors is distinguishable in that it more specifically lists technological applications that students admit draw their attention away from class. It explicitly represents the particular diversions to which students are devoting their attention during cyberslacking. Past researchers have found that some of the most prevalent distractions were games (Awwad et al., 2013; Jones, 2016), social media (Andersson et al., 2014; Awwad et al., 2013; Bellur et al., 2015; Currie, 2015; Jones, 2016; Judd, 2013; Ravizza et al., 2014), and texting (Bellur et al., 2015; Currie, 2015; Junco, 2012; Junco & Cotten, 2012; Ravizza et al., 2014). The students in this study corroborated all of those diversions, in addition to some new ones. Students acknowledged that their attention is averted by (a) texting, (b) social media, (c) watching videos, (d) gaming, (e) listening to music, and (f) other miscellaneous activities.

Texting. With the ubiquity of cell phones in our high school today, texting has become a common way students communicate. For the purposes of this study, texting is defined as the sending of messages from one individual to using a cell phone (Merriam-Webster, 2020). Although some social media and games allow direct communication as a secondary function, texting is treated separately in this study as the use of applications whose main purpose is to send messages. According to previous research, about 92% of students admit to texting in class at some point and 30% confessed they do it daily

(Tindell & Bohlander, 2012). In addition, adolescents are regular texters; they send an average of more than 100 text messages a day (Smith, 2011). Furthermore, research has found that texting rates peak during mid-adolescence (Coyne, Padilla-Walker, & Holmgren, 2018). The results of this study supported these previous researchers, as participants readily admitted they are avid texters during class.

Students in this study mentioned texting more than any other cyberslacking activity. In fact, *every* participant in the focus groups admitted to texting during class on almost a daily basis. Most of the time, students mentioned texting with friends. For example, Angela said:

> I have a lot of friends that I talk to, like, all the time. Like, we just like never stop talking, and so I can put my phone on Do Not Disturb, but I know that they're still texting me, like, I know it. So then, I'm just, like, "Yeah, I have to see what they say."

Elijah agreed that she was "always texting somebody back," and Michael stated that if she was on her phone, she was "texting someone." In fact, during the focus group interview, Elijah actually picked up her phone at one point and began texting. When the group stopped and looked at her, she said, "Sorry, I'm telling someone to meet me in the bathroom" after class. The other students laughed and nodded, showing this was a common occurrence during most conversations. Texting with friends during class seemed as natural to participants as chatting in person to a friend who was physically at the table beside them.

In addition to friends, sometimes students indicated that they texted their family members during class. For example, Juanita said:

> My family is in this family group chat on this app called Whatsapp …. And, um, so [they] use that a lot, and it allows you to use, like, memes and stuff like that, and, like, the little gifs or whatever. So my dad … sends a bunch of gifs, and yesterday …. he was like, "I miss y'all so much" with like a bunch of sad, crying, teary emojis. And … yeah, I texted him back.

In addition, Chad agreed, "I usually text my family members." Students seemed to place more importance on texting family members, and they spoke about it with a tone of entitlement that illustrated their beliefs that this was an acceptable reason to cyberslack. Priscilla mentioned how her "mom called [her] the other day during class, and she will never do that. So, like, obviously [she] texted her to see if everything was okay, 'cause it was, like, actually important." Bryan also placed seriousness on texting family when he commented, "Say my mom text me, and my grandma text me. I mean it's still considered cyberslacking, but stuff like that is important." Communication with both friends and family through texting was a regular source of diversion for students.

Social media. Participants also used social media when engaged in cyberslacking. Social media refers to online applications that allow users to create and share content (Kaplan & Haenlein, 2010) in "a social space [where] users interact with the media" (Rodriguez, 2011, p. 539). Social media applications allow direct messaging among users; however, it is distinct from texting in that the main purpose of the application is to communicate with one's group of followers in public posts, rather than to exchange private messages back and forth. In addition, although this subcategory also overlaps with watching videos, social media is differentiated in this study by its communal aspect and variety of media (Greenhow, 2011). The use of social media fits into the category of

cyberslacking activities because it was a recurrent activity that students engaged with during their cyberslacking sessions. Prior researchers have found social media to be one of the most widespread distractions for students during class time (Bellur et al., 2015; Currie, 2015; Jones, 2016; Judd, 2013; Junco, 2012; Junco & Cotten, 2012; Karpinski et al., 2013). Andersson et al. (2014) found that more than half of students interacted with social media every day in school, and Jackson's (2013) study showed the most visited non-academic websites to be social media. This study supports these previous findings.

Several students in this study mentioned social media as one activity they enjoyed when they cyberslacked. Eric stated, "In some classes, I ... use my personal device to scroll through social media." When asked what she did when she was off-task, Angela answered, "Like, social media, checking, like, Instagram and stuff." In fact, the most mentioned social media application was Instagram. Michael admitted that "a lot of the time [she was] on Instagram looking at posts." In addition, Jade noted that her cyberslacking was "mainly Instagram," and she even remarked that she had "three different Instagram accounts right now." Although she did not explain why, the number of accounts illustrates how involved she is in this particular social media platform. Bryan also confessed to using Instagram during class. He said, "My thing is, like, if we're, like, just talking, like, if we're in a group discussion or something, like, I'll, like, voice my whatever and just scroll through Instagram real quick." Other than Instagram, Snapchat and Twitter were also popular choices in social media-driven cyberslacking. As noted previously, Angela told an anecdote about how her friend Snapchatted during class recently, which pulled her into an extended period of cyberslacking. In addition, Bryan was caught on Twitter by Elijah during the focus group interview: "Just now when you

were talking, [Bryan] was on Twitter. He was just, like, kind of looking at his phone." Michael also indicated that her social media use was either "Instagram …. or maybe Twitter." Furthermore, Bryan and Elijah both acknowledged they used a social media application called Hudl. According to Bryan, Hudl is "like social media, but it's not social media. It's for high school" sports. Participants indicated they and their sports teams used it to watch film of games for use during practice and training sessions, and they could comment on films and share information about their sport. Students' interest in social media as a distraction was similar to texting in that it seemed an important way for students to maintain a connection with the world outside of class and stay up-to-date on current happenings in their social circles.

Watching videos. Another activity in which some students participated when cyberslacking was watching videos. A variety of types of videos were defined by students, including episodes of TV shows, movies, and internet videos uploaded by users. While social media applications sometimes include videos, this subcategory is discussed separately because it focuses on cyberslacking events in which students specifically seek out videos to watch, rather than happening across one by chance that comes up in a social media feed. Although this distraction was mentioned fewer times by participants than texting and social media, it was still a common activity with which students admitted cyberslacking. Other researchers have shown that students engage in watching videos for entertainment instead of focusing on classwork (Awwad et al., 2013; Currie, 2015), and the students in this study also disclosed their tendencies toward this distracting activity.

Bryan turned his focus group discussion on to the topic of viewing videos when he said, "I feel like everybody does the same stuff to a point. If you're not on social

media, you're watching some kind of video." Most students in his group nodded or made affirmative noises in response to this statement. Vanessa also led her group into conversation on the subject when she acknowledged that most of her cyberslacking activities consisted of "slacking and watching stuff." Other students chimed in with their experiences of enjoying videos during class time. Eric indicated he spent time off-task looking at viral videos, which have been viewed and shared so many times they have spread across the internet in a way similar to the way a virus spreads. He said, "I watch a lot of highlights that go viral, like basketball, football, stuff like that." Bryan also cyberslacked by studying sports footage: "Like, game day? I'm not doing nothing. I'm watching film. I'll watch film all day." Other students mentioned specific platforms on which they watch video. For example, Jimmy admitted, "In second block math …. I was just kind of watching YouTube all the time 'cause I was really tired of math …. For like three or four days...I was watching YouTube." In addition, Jade stated:

> I follow shows on NBC, so I have the NBC app, like, on my iPad, and … there's two shows that I watch that, like, air on Tuesdays, and so I watch them on, like, Wednesdays whenever they're on the NBC app. And so, like, I start[ed] watching one in [English class], and then I watched the next one in my next class.

She also specified that she frequently watched things on the Netflix application, as well. Other students nodded, and several said, "Yeah" to this comment, indicating they, too, watch Netflix during class. Although not as prevalent as some other cyberslacking activities, watching videos during class time was popular with the participants in this study.

Gaming. Some students also acknowledged that their cyberslacking included playing games. For the purposes of this study, gaming is defined as participating in a digital game using either a website or an application downloaded to one's device. Some games also allow interactivity among online players. Although various digital games permit messaging between players and incorporate videos for players to watch related to the game, this particular activity is distinguished from others by its focus on competition against other players, the computer, or one's own best score. Previous research found that students often used gaming as a diversion during class (Awwad et al., 2013; Jones, 2016). This study validated those findings.

One student who admitted that gaming garners much of her attention during class was Michael, who said, "All we do is play games on our iPad." Vanessa also noted, "When I first got [my iPad], everybody was hype 'cause we had all the games and stuff." Furthermore, when asked what activities they participate in during cyberslacking, Juanita answered, "I play games sometimes," and other students nodded their agreement. Chad immediately responded, "Coin Dash," naming a specific game he enjoys playing during class. Jade also confessed, "I have games on my iPad." Bryan mentioned some basketball related games he plays during class called NBA 2K. He said, "I didn't do anything [in class]. I played 2K." While fewer students seemed to partake in this particular cyberslacking activity, it definitely distracted several participants in this study from their classwork.

Listening to music. Additionally, a few students mentioned that they listen to music as a form of cyberslacking. Listening to music can be defined in a few ways. Sometimes students used applications, such as Apple Music or Google Play Music, that

were preinstalled on their devices at purchase on which they could play music they had downloaded into the application. They also used streaming music services, like Pandora and Spotify, that either have free or paid subscriptions on which they could make or listen to pre-made playlists or play stations created by the application based on an artist or song the user chose. Finally, listening to music includes the use of YouTube to play music videos, which students may or may not actually watch, in order to hear songs of their choice. Those students who typically *did* watch the videos often did so to view the lyrics of the song as they listened. While this application overlaps somewhat with watching videos because of the use of YouTube, this category is distinguished by its focus on hearing music rather than watching the screen. Although only a few students briefly referenced listening to music, it is related to the category of cyberslacking activities in that it is something that some participants engage in during their cyberslacking sessions.

Juanita was one student who acknowledged that she cyberslacks in this manner. She stated, "Like, I'll listen to music [in class]. That's one of my big things." In addition, Leilani told a story about a recent time when she spent class time on music:

> Well, in, like, my last block, which is Spanish …. Like, yesterday. I remember, like, I was going through, I was listening to music, and then it gets to, like, where I keep getting, like, new songs in my head that I wanted to listen to, so I kept on my phone to change, like, the song, and then I ended up not being able to get my work done because, like, I was too busy worrying about what I was listening to.

When asked what he generally uses his technology for in class, Jimmy answered, "I mainly just use it for, like, music." His first association with technology was music, rather than a school-related activity. Jade also noted, "My 3B [class period]? It's, like, a

computer class, so we can, like, set our music or whatever." This seemed to indicate that she listened to music and completed her assignments simultaneously. Only these four students mentioned listening to music as a cyberslacking activity; therefore it is not as common as previously mentioned activities. However, it seemed to be an important and time-consuming pastime for those who talked about it.

Other miscellaneous activities. Students sometimes engage in miscellaneous activities, such as emailing (Awwad et al., 2013) or other personal business (Currie, 2015; Junco, 2012; Junco & Cotten, 2012), although these were not as prevalent as the activities (e.g., texting, gaming) discussed in the previous sections. Likewise, there were some activities mentioned by only a few students in this study that did not fit into any of the other defined subcategories in this theme. Each of these miscellaneous activities are distinct from each other, as well. However, they were activities in which a small number of students participated; therefore, they are related to the category of cyberslacking activities. For example, when Chad was listing off activities with which he engages during times when he cyberslacked, he mentioned emails. When I asked for clarification of whether he meant personal or school emails, he answered, "Both. I have both of my accounts on there." Michael also noted, "You can, like, email your friends, so it's, like, [even if] we can't have phones, ... there's still other ways of communication and, like, cyberslacking." Additionally, Leilani said, "Sometimes during class, I pull out that [Apple] Photo Booth app and play with the little filter," and "I do look at myself in the camera sometimes." Angela nodded her agreement and said, "Definitely….we both do that. I'm being honest." Furthermore, Jade acknowledged, "One other thing that I do when I cyberslack is I'll use the news app on my phone and just scroll through it and see

what's going on. I know that's really weird, but that's just one thing." Another miscellaneous activity was mentioned by Eric: "I ... put reminders in my phone for doctors' appointments and birthdays and stuff like that." Priscilla admitted she "shop[ped] sometimes," to which Vanessa and Davis both agreed. Vanessa said she went "on Zillow and look[ed] at houses sometimes," and Davis said he spent time "looking at Amazon or maybe houses." These miscellaneous items were mentioned sparingly and by only a small number of participants; however, they are worth mentioning here, as they were diversions for some students and did play a part in their cyberslacking behaviors.

The use of certain devices for cyberslacking. In addition to the various activities in which they engage during cyberslacking, students mentioned three mobile devices they used to cyberslack during class: smartphones, Apple iPads, and smartwatches. A mobile device refers to a piece of technology that can be transported easily (Valk, Rashid, & Elder, 2010) into the classroom. Although the previously discussed activities each required a digital tool to facilitate students' engagement with them, the devices themselves were treated separately. Students had a choice as to which implement they would use to practice their cyberslacking, and most activities could be completed using any of the three devices. Therefore, it was of interest in this study which tool students employed to carry out their cyberslacking. This category is related to the overall theme of varied cyberslacking behaviors because the choice of device is a behavior related to cyberslacking, and their choices were not all the same. Brooks (2016) found that 96% of students own a smartphone and 29% own wearable technology such as smartwatches. In addition, 20% of schools offer a ratio of one-to-one computing devices for their students (Pearson Education, 2015), and specifically our school district provided 91-100% of

students the opportunity to be issued a device in the form of an Apple iPad at the time of this study. Accordingly, the students in this study were well-equipped with a few pieces of equipment, both personal and school-supplied, on which they could access cyberslacking activities. The devices students in this study indicated they used for off-task behavior were (a) smartphones, (b) Apple iPads, and (c) smartwatches.

Smartphones. The most discussed devices for cyberslacking among students in focus groups were smartphones. A cell phone, also known as a mobile phone, is a wireless and portable telephone that can be used to make and receive phone calls over a cellular radio system, thus allowing it to be used over a wide area without a physical connection (Lexico, 2019). Smartphones are cell phones that have integrated computing functions (Lexico, 2020a), in addition to their ability to make phone calls. They typically allow users access to the internet, can send and receive emails and text messages, and can run a vast diversity of applications. All of the students in this study owned smartphones, although they used the terms *cell phone* and *smartphone* interchangeably. In fact, most participants had their smartphones on the table or in their laps during their focus group interviews. During discussion, students' comments about smartphones overlapped with their conversation about the cyberslacking activities in which they participated. They seemed to naturally link many of the activities to their smartphones without thought, showing how accustomed they were to using these particular devices for a variety of off-task activities on a regular basis. smartphones fit into the category of devices because they were a popular tool students selected for their cyberslacking sessions. Much previous research emphasized the prevalent use of cell phones by students during class for off-task activities (Duncan et al., 2012; Junco, 2012; Junco & Cotten, 2012;

Kuznekoff & Titsworth, 2013; Lepp et al., 2014). The findings of this study are along the same lines, in that most students conduct their cyberslacking using their smartphones.

When asked directly what device they usually used for cyberslacking, several students in one focus group answered immediately:

Davis: I just use my phone.

Priscilla: Yeah, I use my phone.

Eric: My phone.

In the other groups, the response was similar. Juanita said, "I don't use my iPad that much. I just use my phone," and Jade confirmed, "Yeah. It's really just phones." Furthermore, Bryan declared, "I don't ever use my iPad for cyberslacking, but... I'll get on my phone." However, some comments by students about the use of their smartphones were embedded in discussion about cyberslacking in general. For example, Vanessa remarked, "It's kind of like you move at your own pace [in some classes] so you distract yourself. Like, you get on your phone." Chad also noted the use of his smartphone: "I really need to focus, but you know my phone's right there. I just want to use it." Leilani stated, "I mean if cyberslacking is when you just, like, check your phone or something — like, I do it all the time. I pick up my phone to look at it, and that happens a good many times." Additionally, other students mentioned smartphones as they were discussing specific activities in which they engage during cyberslacking. To illustrate, Elijah revealed, "Last semester I had…a boyfriend who lived out of state, so the only reason I'd be on my phone was to text him." In fact, as the focus group interview was taking place, Elijah called attention to her phone in the moment when she announced, "Someone just called me" as her phone finished buzzing on the table. smartphones were a major

component in the students' cyberslacking activities and were often so intertwined with their cyberslacking that they seemed unable to discuss one without the other.

Apple iPads. Another device students commented about using for cyberslacking was the Apple iPad. An Apple iPad is a tablet computer that has its own operating system, runs numerous applications with a variety of purposes, and utilizes a touch screen user interface. Apple iPads have similar capabilities to what many students' smartphones could accomplish except they cannot make phone calls using a cellular network. In addition, they are larger, and students seemed to view them more as class-related devices than they did their smartphones. Apple iPads are associated with the category of devices used for cyberslacking because students sometimes used it as a tool for off-task behavior during class. Middle View School District's Personal Mobile Computing Initiative, which began in the 2011-2012 school year ensured that all students in this study had a school-issued Apple iPad at their disposal. Flower's (2014) study of elementary students found that when they worked on iPads, their time on task increased as opposed to when they worked under typical conditions without iPads. However, the findings show that high school students in this study were occasionally distracted by their iPads.

Comments on iPads were mixed among the participants in this study. Some students claimed they rarely used their iPads for cyberslacking. Vanessa attested, "I don't even use my iPad anymore …. except for school-related stuff." Juanita agreed when she said, "I don't use my iPad that much. I just use my phone." Susan also commented on the use of iPads: "I think just the maturity level [in middle school] was different, 'cause I feel like people … [were] like, 'I want to download all the games!' …. I very rarely see people [cyberslacking] on their iPads now." Chad noted that the acquisition of a

smartphone as an older adolescent has reduced the use of iPads for cyberslacking. He said, “Middle school is usually when people get their phones, and that's why we don't care about the iPads anymore. We just use our phone now.” From these students’ points of view, it seemed that they regarded iPads as an educational tool rather than a device for cyberslacking and only when their teachers required its use.

Although there were quite a few comments asserting that iPad use for cyberslacking was rare or nonexistent, there were some participants who disagreed. For example, Leilani mentioned, “I use my phone *and* my iPad, ’cause, like, sometimes during class I …. play with the little filter on the Photo Booth app on the iPad.” In addition, Jade stated, “I feel like [the iPad] gives me more motivation to [cyberslack] because there's more outlets, because it's not just my phone. Like, I have games on my iPad.” Jimmy noted the he sees “a lot of people playing games on their iPad, like, in different classes.” Furthermore, when students were directly asked if they ever used their school-issued devices for cyberslacking, several students responded:

Elijah: Sometimes I'll play games.

Jade: Yeah, I have games.

Michael: Yeah, I have one game.

It was a fairly even split between participants who did not use their iPads for cyberslacking and those who did.

Smartwatches. Despite the fact that it was only mentioned a handful of times, students also referred to smartwatches as a device used for cyberslacking. A smartwatch is a wearable personal computer in the form of a watch worn on the wrist, typically with a touchscreen user interface (Lexico, 2020b). Often, the smartwatch is an extension of the

user's smartphone in that it can send and receive text messages and phone calls and complete various tasks through applications connected to the smartphone. Notwithstanding that smartwatches can accomplish similar functions to those of students' smartphones and, in some cases, their iPads, this device is treated separately because of its ability to be worn on the body and its inconspicuous nature. Smartwatches are connected to the category regarding devices used for cyberslacking because it was mentioned briefly as a cyberslacking aid. Although Brooks (2016) found that 29% of students own wearable technology, none of the students in the focus group interviews possessed such devices. However, a couple of students did notice other students using them. Leilani said, "I see a lot of people on their Apple Watches during class, too, all the time. Like, they'll just like flip over [looks at her wrist] and, like, 'Oh,' and they'll, like, reply" to a text message. She stated that using a smartwatch seemed "like, so much easier." Juanita concurred, "I do see that sometimes, actually, now that I think about it." Other students did not comment personally on the topic, but they did nod their heads in agreement with Leilani and Juanita, indicating they, too, had seen the use of smartwatches by their classmates during class. Although the participants in focus group interviews only mentioned this device in passing as something they had seen their classmates use, it is of note that this is a device that has made its way into our high school and is a diversion for some students during class time.

Multitasking. Multitasking was also a topic that emerged as students discussed their cyberslacking behaviors. In the course of focus group interviews, several students commented on their ability to multitask. Multitasking is defined as giving several tasks continuous partial attention (Chatham, 2015; Friedman, 2006) or engaging in multiple

activities or with different media at the same time (Bellur et al., 2015). Multitasking is interconnected with the other categories in this theme, as students frequently engaged in multitasking as they cyberslacked using their various devices. Furthermore, it corresponds to the theme of frequent and varied cyberslacking behaviors because multitasking is a practice that participants indicated regularly occurred in conjunction with their cyberslacking. Portanova (2014) and Terry et al. (2016) found in their research that metacognitive awareness increased the ability to manage multitasking. In this study, students seemed to be conscious of their multitasking ability, and they believed that this aided in their management of cyberslacking.

One participant who commented on her multitasking skill was Priscilla. When I asked how she thought cyberslacking affected her assignments, this exchanged ensued:

Priscilla: Oh, well for me it doesn't because, I mean, I still get all my work done, so —

Me: So you just think you're good at multitasking or switching back and forth?

Priscilla: Yeah.

Jade also remarked on her ability to multitask: "I've now figured out, like, how to balance both …. Like, an equal amount. I'll be like, 'Okay, just don't stay on your phone, like, the whole time. Just, like, do a little bit here and there.' " Michael responded immediately to her comment with "Yeah, exactly," indicating that she believed the same about herself. In addition, Bryan and Jade engaged in the following discussion:

Bryan: When I cyberslack, I'm not really cyberslacking. Like, I'm — like, I'm left-handed. I have my pencil in one hand, my phone in the

other. [laughter] …. I'll be on my phone scrolling, but I'll talk to the group and we'll —

Jade: [interrupting] Multitasking.

Bryan: Yeah, I can multitask. I can multitask, so it's a little bit of both.

Bryan's confidence in his capacity to multitask efficiently led him to conclude that his behavior may not even constitute cyberslacking, even though the activities with which he was multitasking were not all class-related. Moreover, Jade also pronounced her proficiency in multitasking when she discussed watching videos in class. She stated, "Like, I'm multitasking 'cause I'm also doing work. Like, I'm also trying to do my work while I do it, but, like, I have my headphones in." Each participant who mentioned multitasking thought they were effective at switching between classwork and cyberslacking and creating a balance between the two.

Avoiding detection while cyberslacking. In addition to participants' discussion of frequency, activities, and devices they associated with cyberslacking, students also raised the subject of how they avoid being caught cyberslacking by their teachers. This conduct could be attributed to psychological reactance theory (Brehm, 1966), which posits that when an individual feels their freedom may be limited, they react in certain ways to maintain or restore that freedom. In this study, participants reacted to the possible negative consequences their teachers may have enacted by attempting to hide or disguise their cyberslacking behaviors. Although circumventing discovery often accompanied the previously discussed behaviors, it is distinguished by its purpose in concealing the frequency or specific off-task activity from teachers in order to evade negative consequences associated with cyberslacking. This behavior relates to the theme of

cyberslacking behaviors because students mentioned it in conjunction with various cyberslacking exploits.

One way participants indicated they avoid detection while cyberslacking was to watch for signs on their device that teachers were using Apple Classroom to observe their Apple iPad screens. Apple Classroom is an application that allows teachers to monitor and control their students' Apple iPads while they are in range of bluetooth (Apple educational products, 2017). Bryan told his classmates during the focus group interview, "Here's a tip to get past the [Apple Classroom] thing. You can tell that they're watching you when the blue [bar] is on top of the screen. If it's not there, then they're not watching you." Other students nodded their agreement that they, too, had discovered this sign. Watching for the blue bar allowed them to know when they could cyberslack without discovery. Michael indicated that she took an additional step to eliminate the Apple Classroom issue. She said, "Yeah, I used to just turn [my Bluetooth] off," because she knew that the application would only work if her teacher's device could connect to hers through this wireless technology. Elijah also noted a strategy she used to obscure her device when she was cyberslacking. She stated, "I turn my brightness all the way down." The darkened state of her device screen made it more difficult for teachers to see the application or activity with which she was engaged. Furthermore, Jade discussed her procedure for avoiding detection: "Yeah. Either, like, my teachers, like, [they] watch me; [they] know me. Um, and so, like, when [they] come around I'll be like [to herself], 'Let me get off this real quick, [laughter] and then I'll go back to it.' " Her knowledge that her teachers were aware of her tendency to cyberslack kept her on alert so she could hide her device when her teachers were nearby. Elijah and Michael agreed:

Elijah: Every time [my teachers] walk around, I'll, like, put my phone down.

Michael: Yeah, I put my phone down.

This concealment behavior indicated that students believed there was a need to hide their cyberslacking behaviors from their teachers in order to avoid negative consequences.

Resisting cyberslacking altogether. There was also discussion in focus group interviews of ways the students attempted to eliminate cyberslacking altogether. Resisting the urge to cyberslack included actions students undertook or were required to practice to prevent themselves from engaging in off-task behaviors during class time. This exercise was in opposition to the previously discussed categories in which students shared their propensity to give in to digital distractions. The students' implementation of this practice had the purpose to accomplish the reverse. Students took steps to stay focused, rather than participate in cyberslacking. Although this behavior was contrary to cyberslacking, it is related to the theme of cyberslacking behaviors because the students indicated that they engaged in these activities to prevent cyberslacking. According to previous research, some teachers use certain strategies to help students resist cyberslacking, such as banning or restricting the use of technology (Cheong et al., 2016). In addition, it has been found that students feel that cell phones are a distraction in class (Jackson, 2013), which may lead to students imposing certain limitations on themselves. According to participants, both of these were the case in this study, as well as other methods of resisting the draw towards cyberslacking. The specific strategies students utilized to combat cyberslacking were (a) settings on their devices, (b) teacher- and parent-imposed regulations, and (c) personally-imposed controls.

Settings on their devices. One approach participants relied on to avoid cyberslacking was the adjustment of settings on their devices, using airplane mode or Do Not Disturb features. Airplane mode turns off all wireless connections to the device, including access to wi-fi and cellular network. Do Not Disturb does not sever these links; instead it silences all notifications. In either case, students utilized the lack of alerts to keep themselves focused. For example, Juanita said, "Like, once we actually start a lesson or we start learning something … sometimes I just put [my phone] on airplane mode." Chad followed up with,

> Yeah. I put my phone on Do Not Disturb …. Like I pay attention in class, and, obviously, when I'm on break, I turn it off, and I receive all those notifications. So I'm completely focused while I'm on [Do Not Disturb]; I'm listening to [my teacher] or doing work.

Several other students nodded or made remarks such as "Yeah" to show their agreement, indicating they also use these settings. Participants maintained that these two settings on their devices kept them more focused and less likely to cyberslack during class.

Teacher- and parent-imposed regulations. In addition, students relied on teacher- or parent-imposed methods to eliminate cyberslacking. Vanessa remarked, "In one class I have, we have to put our phone in a box and lock it [rolls her eyes]." Chad also mentioned a class in which "the teacher [made him] put [his phone] in, like, in a little … lock bag" to reduce distractions. Furthermore, Jade discussed how her parents had an application that allowed them to see when she used her phone. She commented that her parents had noticed she was using her phone during class at the beginning of a semester. She said, "And my parents were like, 'Uh-uh, that's not going to happen. That's not how

you're gonna start off.' " Leilani's parents also monitored her phone use during class. She stated:

> Like, my parents — they can, like, know when I'm on my phone, and so I'll be in the middle of class, and I know they can see, like, I'm on my phone, and they'll be like, "Why are you on your phone? And you're, like, you're in a really important class? You pay attention!" So, like, I'll think of that, like, during some classes, and be like, "Okay, I need to put it down" … 'cause I need to be focused on my class work.

While the tone in which participants discussed these strategies imposed by their teachers and parents indicated that they were resistant to the idea and would not utilize them unless mandatory, they also saw the value of these impositions in retrospect. Leilani said, "I mean when [they] did that I was fully — you know, I wasn't thinking about my phone, I was on my work." Although students did not enjoy these rules imposed by their teachers and parents, they did help participants resist cyberslacking in class.

Personally-imposed controls. Finally, students also relied on their own personal resolve to eliminate cyberslacking from their class time. Bryan commented, "I gotta control myself, because in Algebra 2 — like, I take it right now — I've got to make sure I'm not on my phone. 'Cause math is not something I'm good at, so I gotta focus more." Michael similarly remarked:

> Like, I'd want to get on my phone [in chemistry or Algebra]…I'd reach for my phone, but I'm like, "No, I need to pay attention, because I'm going to get home and not going to know this and then I'm going to be mad whenever that's my fault."

In addition, Elijah went a step further for herself. She said, "In my Algebra 2 [class], I would always want to be on my phone, so … I would just plug it up in the back of the room, and I'd be like, 'I can't reach it.' " Students in this study believed they were able to withstand the urge to cyberslack through these personally-imposed methods.

Summary. This theme explored the frequent and varied cyberslacking behavior of participants. This included a discussion of the frequency and duration of cyberslacking, specific cyberslacking activities, the use of certain devices for cyberslacking, multitasking, avoiding detection while cyberslacking, and resisting cyberslacking altogether. The analysis of these topics contributed to the goal of this study by illuminating students' cyberslacking behaviors. Participants shared their personal self-assessments about their cyberslacking habits, as well as those they notice around them. The discussion from focus group interviews helped clarify participants' behaviors regarding cyberslacking from their own perspectives.

Internal and external motivators for cyberslacking choices. Both internal and external motivations for cyberslacking choices affected participants in this study. Internal motivators are defined as personal factors within students that drive their cyberslacking practices, such as feelings, knowledge, habits, and comfort level. External motivators are defined as outside circumstances with which students dealt that influenced their cyberslacking behavior, such as teachers, rules, and environment. This theme is more deeply associated with the reasons behind students' cyberslacking tendencies and what prompts them to engage in such off-task activities. Previous research suggests that students are motivated by a variety of reasons to cyberslacking, including those that are instructor-, content-, environment-, and student-related (Varol & Yildirim, 2019). This

study demonstrated that high school students were driven by similar factors. The following illustrates participants' discussion regarding (a) internal motivators and (b) external motivators.

Internal motivators. Over the course of the focus group discussions, various student-dependent reasons for cyberslacking emerged. These are personal elements that students cited as having induced them to cyberslack. These factors are different from external motivators in that they originate from within the participants themselves, rather than from external influences. The results of prior research show that students are influenced to cyberslacking by several internal factors, such as consumerism, escapism, lack of interest, and anxiety (Taneja et al., 2015). While the results of this study confirmed some of these previous findings, it also added others particular to these participants. Five specific internal motivators emerged in focus group interviews: (a) habit and addiction, (b) stress and anxiety, (c) the need for connection, (d) perceived knowledge and comfort level, and (e) lack of interest in the subject.

Habit and addiction. Participants disclosed that they often cyberslacked out of habit and commented on their experiences with the symptoms of technology addiction. In this study, habit is defined as the regular repetition of certain actions by way of thought processes that occur so quickly they require minimal focus (Wood & Quinn, 2002). The students defined technology habit or addiction as a dependency on technology, the avoidance of which incurs negative effects. In their comments, participants often mentioned habits and/or addiction in the same discussion thread as anxiety. However, this subcategory is being treated separately to illustrate the draw students felt towards cyberslacking, while the section on anxiety will examine students' experience of the

negative effects of denying this compulsion. Habit and addiction are discussed under the category of internal motivators because students' habits and/or addictions are self-made, rather than the result of external factors. Previous studies have shown that many students have formed habits centered around their digital devices that are difficult to ignore during class time (Aagaard, 2015; Błachnio & Przepiorka, 2016; Olufadi, 2015; Yaşar & Yurdugül, 2013). These behaviors are deep-seated, and students are often off-task before they are even consciously aware of it (Aagaard, 2015). In addition, it has been found that students who exhibit these addiction-type behaviors are powerless to resist temptation (Błachnio & Przepiorka, 2016). The participants in this research experienced similar situations with their cyberslacking behaviors, although only one student admitted to addiction.

Almost all students readily admitted that their cyberslacking during class is the result of a habit. To illustrate, Chad said:

> Since middle school, I've had my phone, and … I have the habit of just, like, checking what's up on my phone, and one day I forgot it, and so I didn't have my phone, but I still had that tendency and urge to, like, go through my pocket, and I'm just like, "What's wrong? Where's my phone?" But I forgot it. But I still have that urge, since I'm used to having it. The whole time, I just reached in my pocket to try to get my phone.

Leilani agreed. She commented, "I'll think of something … that I'll be like, 'Oh, I want to check this. I'll just go on my phone to look at it.' …. I don't know, it was just a habit to go on there." Angela responded immediately, "It's a habit definitely …. I definitely — I check my phone … a lot during every class. Like, it's kind of a habit. I check it all the

time." Over the course of discussion, most students agreed, nodded, or mentioned the word "habit" briefly in reference to their cyberslacking practices.

Although students were quick to acknowledge that cyberslacking was a habit for them, they mostly denied that it was an addiction. Specifically, Vanessa stated, "Even though it's not an addiction, … like, if you're bored, you pick it up, but I mean you don't *have* to do it." Davis also noted, "I don't think it's necessarily, like, an addiction for some people. It's just like we have one — like, we have a phone." From his perspective, he used his phone because it was there, not because he was addicted to it. In addition, Eric stated, "For me personally, I don't think that I have an addiction with my phone, because usually I am very active, and I go outside and do multiple things." Furthermore, Jade added a note about her experience since getting a smartphone:

> I've seen a difference to where I am a little more attached to it, but that's because, like, … I use it to contact my parents; I use it to contact my friends; I use it for school to contact my teachers and stuff too. So I feel like … that has gotten me a little more connected to it, but I wouldn't say it's an addiction whatsoever.

Other students, such as Michael, just simply stated, "I don't think it's an addiction." However, one student conceded that she believes she has an addiction. Angela said, "It's definitely just like an addiction. Like, it's not even like I enjoy being on my phone that much. It's just, like, it's more entertaining to me than school." She also admitted:

> If … I misplace my phone, … it sounds so bad, but, like, this is how I know I'm addicted to my phone…. like, if I can't find it within the first couple minutes of looking for it, I start freaking out …. if my mom tries to take my phone, it's, like, … basically the end of the world.

Although students did recognize a regular tendency towards cyberslacking, all but one rejected the idea that they may have an addiction.

Despite the fact that they refuted a technology addiction for themselves, participants were open to the thought that teenagers in general were addicted to technology. For instance, Vanessa said:

> There's some people that are addicted to their phones for real. Like, there's really people out there that's addicted to technology. People, they be, like, playing games — online games. They really addicted to stuff like that …. They don't do none of they work.

Susan agreed. She added, "I could see where some students, like … have an addiction, because, like, if a teacher tells the student to put their phone away, … some students, like, lash out about it." Leilani expressed her belief about younger children and technology:

> Now, kids are starting to get phones when they're in elementary school, and that's just starting, like, them wanting to use it at an early age …. And that's just making an addiction for them even worse because they're relying on it so much.

Moreover, Angela stated that she believed "there is, like, a major addiction with, like, teenagers — not just teenagers, but, like, young kids and teenagers and, like, younger adults. They are addicted to their phones." Overall, most students acknowledged that technology addiction among teenagers is real and prevalent, even though they did not believe they themselves experienced addiction.

Interestingly, although the majority of participants refuted an addiction to their devices, some made comments about their own behaviors and feelings that seemingly contradicted their denial. For example, Leilani said:

I mean, like, in middle school, I could leave my phone in my locker all day, and not have to check it or anything, and now I feel like I could probably not do it, 'cause I'm just on my phone so much that I wouldn't be able to do that.

Later, Leilani also added, "Once you pick it up, even if you don't have, like, the intention of staying on it …. you just kind of can't stop unless you're forced to." Several other students affirmed her observations by nodding or making supporting comments, such as, "Mmm-hmm" or "Yeah." Each of these mentioned behaviors are indicative of addiction, although students denied having an addiction in other parts of the discussion.

Furthermore, some participants noticed the discrepancy in their own conversation. The following is an exchange that shows Jimmy's metacognition about their collective denial:

Jimmy: So that's the thing. That's the first part about being an addict to something.

Jade: Admitting you're an addict?

Jimmy: No. It's denial. That's the first part about being addicted to something is being in denial. "I'm not addicted."

Bryan: Right, of course. Yeah.

Jade: I don't have a problem! [sarcastically]

Jimmy: Nine out of ten kids are going to say, "I'm not addicted to it." But I mean, I could —

Me: Do you think that you are?

Jimmy: No. [laughter from all participants] …. I think honestly that there is a lot of people who are addicted to their phones. I really do think that that's true. And I mean if you think about it — just like

> someone who's smoking a cigarette, right? Obviously, [technology addiction is] not killing you, but, like, if they're saying, "I'm not addicted. I'm not addicted." Right? I mean, everybody here just said that.

Most students concurred with Jimmy's analysis, as displayed through thoughtful nods or affirmative words, such as, "Yeah." However, they did not amend their previous assessment of themselves in regard to addiction.

Stress and anxiety. Stress is an uncomfortable emotional experience felt in very challenging situations (Baum, 1990). The American Psychological Association (2020) defines anxiety as "an emotion characterized by feelings of tension, worried thoughts and physical changes like increased blood pressure" (para. 2). In focus group discussion, participants in this study revealed feelings of stress and anxiety associated with their cyberslacking habits. They disclosed that their experiences with cyberslacking either caused or alleviated anxiety and/or stress, depending on the situation. Frequently, discussion regarding anxiety overlapped with comments about cyberslacking habits and/or addiction, as well as cyberslacking activities. However, this subcategory is examined independently because it focuses more closely on the negative repercussions or soothing effects of those habits and activities. Students often cited feelings of anxiety and/or stress as an inducement to cyberlack. In addition, these emotions originated within students themselves; therefore, it is connected to the category of internal motivators for cyberslacking. Previous research shows that students often feel anxiety associated with cyberslacking (Taneja et al., 2015). In addition, students routinely use coping strategies to manage stressful situations (Gerow et al., 2010), which could include

cyberslacking. The participants in this study also illustrated these characteristics in relation to their cyberslacking practices.

Some students indicated their devices were sometimes a source of anxiety and/or stress, especially if they were unable to use them. For example, as previously discussed, Angela said that if she misplaced her phone for even a couple of minutes, she "start[ed] freaking out, like, getting really bad anxiety … so, like, if you tried to take [her phone] it's basically the end of the world." In addition, as noted before, Chad related an experience in which he forgot his phone at home. When I asked, "Did you feel … anxiety because of not having it?" he answered, "Yes, and I usually text my family members, so it was stressful." Additionally, Angela alluded to feelings of anxiety when she commented:

> I have a lot of friends that I talk to, like, all the time, … so I can put my phone on Do Not Disturb, but I know that they're still texting me — like, I know it, so then I'm just, like, "Yeah, I have to see what they say."

It seemed that her inability to resist looking at texts she knew were waiting for her caused uneasiness until she gave in and checked her messages. Elijah also discussed the worry she felt related to losing her device. She said, "If I were to lose my phone, I would be worried about like, 'Oh, my gosh, my friend, like, this friend, that friend.'" Not having access to her phone would cause her anxiety because of loss of communications with friends. Several students expressed a feeling of apprehension or stress caused by the inability to use their device at will.

Conversely, there was also discussion about how taking a cyberslacking break could relieve the anxiety and stress caused by a challenging class, assignment, or social

situation. Angela commented:

> If you just try and spend a whole eighty-minute period focusing and doing nothing but the work, it's so draining. Like, it is so exhausting. I feel like it makes the time go by faster when you just get on your phone.

Bryan and Michael both agreed. Bryan said, "When I have to type a essay or write a paper, I have to stop sometimes." Michael continued, "I can't just write a paper straight through." They both used cyberslacking as a way to take a break from demanding work. Some students also remarked that cyberslacking helps clear their minds and refocus their attention on their work. Priscialla said, "I can't focus on things for a long time. So, like, [cyberslacking] just, like, breaks up my focus and switches it to something else, and then I can, like, turn back into whatever the teacher's saying." Similarly, Jade noted, "A lot of times, like, I'll get, like, foggy with my head, so I can't think, so I'm just like, 'I need a brain break', so, like, that's when I" cyberslack. Moreover, it seemed that cyberslacking could be an escape from a stressful social situation at times, as well. In reference to working in a group of people with whom she was not well-acquainted, Jade said, "Sometimes they're talking to each other, and then I feel left out. So I'll just get on my phone." Michael agreed: "Because I'm like — I don't like that. I don't like that feeling. If y'all are gonna talk, I'll just be on my phone. I'll join back when y'all are done." Furthermore, Bryan and Jade declared:

> Bryan: I think without my phone, school would be a whole lot worse.
>
> Jade: I feel [it would be] a lot harder. More stressful.

Although students recognized that reliance on their devices could be a source of anxiety,

they also believed cyberslacking could help alleviate the stress they experienced in class due to challenging work or social uneasiness.

Need for connection. Another motivation for cyberslacking expressed by students was the need for connection. Students' comments indicated they crave a connection with the outside world, including their friends and family, as well as current events and culture. This yearning frequently inspired their cyberslacking behaviors. Whereas this need for connection was apparent in both the existence of students' habits and/or addictions and the anxiety they felt as a result of not being able to use their devices, this category is distinct in that it may reveal the underlying reason for the other issues. This desire for connection illustrates another internal motivation because it arises from within the student, rather than as a result of outside influences. Studies have revealed that students routinely utilize technology in the classroom to maintain a link to the outside world (Aagaard, 2015; Chen & Donmez, 2016; Olufadi, 2015). This was also evident among participants in this study.

In focus group interviews, several students made comments that were indicative of a need for connection. To illustrate, Michael said:

> It's, like, that's how I stay connected to, like, the world. So it's like without my phone … it's like the world's going on. Like, things are going on, and I don't even know what's happening. So it's kind of like, that's how you stay connected to everybody. Like, you know, it's like, what's going on with your friends? Like, what's going on? Like, just like pop culture. Like that kind of stuff.

Leilani also shared her thoughts about her device and cyberslacking:

> I can [use Do Not Disturb], and then I'll be good for a little while, but then I start

to, like, wonder sometimes, like, … "Oh I wonder if, like, there's anything online, like a new thing on my phone to like" [on social media].

In addition, Angela noted, "I have a lot of friends that I talk to, like, all the time. Like, we just, like, never stop talking, and so … I *have* to see what they say." Other students concurred with comments like these by nodding or saying, "Yeah." Participants' need for connection to the world outside of the classroom was a factor in their cyberslacking behaviors and constituted an internal motivator to engage in cyberslacking to fulfill that need.

Perceived knowledge and comfort level. Students' conversations during the focus group interviews also suggested that their perceived degree of knowledge and comfort level with a particular course or topic also determined their motivation to cyberslack. Participants' comments implied they related knowledge to whether the matter under study was comprised of facts, processes, or concepts with which they were already familiar. In addition, their comfort level was determined by how skilled they perceived themselves to be at the assigned task and how easily they believed they could accomplish the assignment. The other subcategories of habits and/or addiction, anxiety, and the need for connection all relate to emotions that students perceived as motivators for cyberslacking. However, their knowledge and comfort level is differentiated from feelings and centered around the result of students' self-assessment of their academic ability. It relates to the category of internal motivators because students' determination of their knowledge and comfort level was based on their own self-evaluation, rather than external data or opinions. Aagaard (2015) found that students resort to cyberslacking both if they find the work too easy and if they become frustrated because it is too hard.

In addition, students are more likely to stay on task if they feel the activity is important to their personal success (Chatham, 2015). This study's findings substantiate these claims.

In some cases, the more students believed they understood the topic and the more confident they felt with the task, the more likely they were to cyberslack. For example, Susan said she cyberslacked when she felt "comfortable with the assignment and the information …. I think if I'm doing busy work in a class, then I'm less likely to do [the work] because it's like … we're not actively doing anything [challenging]; It was just a different level of" concentration required. Davis agreed: "One of my classes — it's so easy; I'll get everything done in, like, ten minutes, and then I have the rest of the class" to cyberslack. Bryan also remarked, "If I'm feeling like I can do [the assignment], like, without effort, like, 'Oh, I can do this later,' I'll get on my phone." Participants tended to cyberslack more if they perceived the classwork to be undemanding and easy.

In contrast, previous research has found that many students are more effective at staying on task during activities they feel are significant to their individual achievement (Chatham, 2015). This proved true for participants in this study, as well. If participants regarded the topic under study as challenging to them, many students tried to focus more fully and would refrain from cyberslacking during those lessons and assignments. Jade noted, "I pay the most attention in Chemistry, 'cause — *Chemistry*," indicating that Chemistry was an arduous subject for her, so she resisted cyberslacking in that class. Elijah also commented on her English class: "I feel like this is, like, one of my hardest classes, so I tried to pay the most attention in this class." In addition, Chad responded about when he was motivated not to cyberslack: "Maybe when I'm doing bad in a class, um, and I really need to focus." Michael also noted how her math struggles determined

her cyberslacking practices. She said:

> Like, I'd want to get on my phone, but it was something I knew I need[ed] to, like, pay attention to. So it was, like, … I'd reach for my phone, but I'm like, "No, I need to pay attention, because I'm going to get home and not going to know this, and then I'm going to be mad whenever that's my fault."

Agreeing with the motivation not to cyberslack in math, Bryan commented, "I gotta control myself, because in Algebra 2 — like, I take it right now — I've got to make sure I'm not on my phone, 'cause math is not something I'm good at, so I gotta focus more." Participants' were often motivated to avoid cyberslacking if they believed their success in the class or on the assignment was contingent on their focus.

Interestingly, some students admitted the opposite, indicating that if they did not understand the lesson and/or material, they were *more* likely to cyberslack. Angela was most adamant about this tendency:

> I definitely think that when I'm in a class … if I'm not understanding the material, that's the point in time that you *should* be like, "Okay, like, I got to zone out of everything else and focus on what I'm learning, so that I can catch up and make sure that I'm doing good." But at that point, when I start struggling, it's just, like, "Okay, well, I don't get it, so what's the point in continuing to listen?" Especially in math, because … when you start getting lost, and your teacher has a class full of thirty students, … then you basically just have to wait until after class or the next day [to] get caught up. So then, I usually just pick up my phone.

Michael also noted that she experienced similar results of her frustration: "I literally, like, I would get so fed up because I didn't understand, … so whenever I got fed up, I just

got on my phone." Additionally, when responding to a question about when he cyberslacked, Bryan commented, "If I'm frustrated, I do it," indicating that his perceived inability motivates him to engage in off-task behavior. Although most students asserted that their focus increases if they do not feel confident with the material, these students used cyberslacking as an escape from the frustration of a task they perceived as too daunting.

Lack of interest in the subject. Furthermore, participants' lack of interest in the subject motivated them in their decisions about cyberslacking. Interest is defined as a students' value of, positive emotional connection with, and self-intentional behaviors toward a topic or activity (Köller, Baumert, & Schnabel, 2001). Students' previously discussed conversations about their knowledge and comfort level overlapped somewhat with statements about their absence of interest in the subject. However, students' unenthusiasm towards the material is examined explicitly because at times, this factor overrode their perceived need to focus in order to perform well, thus leading to cyberslacking even when students believed they should pay attention. It could be argued that how engaging a lesson or teacher is may determine the eagerness of students to remain on-task, which would indicate that this subcategory is more suited for scrutiny in the external motivators category. However, it is analyzed with the other internal motivators because some students are more inclined to feel boredom in class or may have certain traits that impact their interest in the topic, while others possibly have stronger self-efficacy and task orientation to control their response to ennui in class (Dugan, Zhang, Kellaris, & Sweeney, 2019). Each of these factors are specific to the student, rather than coming from external sources.

Participants indicated that one of their strongest motivations for cyberslacking was because they were bored and disinterested in the class or lesson. This motivation was mentioned repeatedly in all three focus group interviews. Eric commented, "Earlier in the year, I didn't really cyberslack, 'cause I guess everything was kind of new …. But as time passed on, things started to get boring, so I started to go on my phone more." In addition, Angela said, "I definitely think that when I'm in a class, and I start to get bored, …. then I usually just pick up my phone." Bryan also stated disinterest towards the topic as a reason he cyberslacks: " Now, if I get bored with [the task], … I might get on my phone." Likewise, Jimmy addressed the topic of disengagement in class: "I mean sometimes, if something's boring, you know — I know a lot of people get on social media …. I do it." A few students commented on their overall inclination towards boredom. Eric said, "I get bored very easily." Furthermore, when participants were asked during what types of situations they cyberslacked, Priscilla stated, "Mine's pretty much all the time, 'cause I'm bored." Also, Tyrone noted, "Sometimes it's just boring …. I need something else to keep me occupied." Although every student did not specifically point out disinterest, most participants seemed to be in agreement with those who did, illustrated by nods and affirmative noises. In general, students admitted they were more likely to cyberslack when they felt bored or disengaged from the topic of the lesson.

External motivators. In contrast to internal motivators, there were a few external motivators that influenced students' cyberslacking practices in this study. External motivators are defined those which are not self-determined by participants but are controlled by outside forces (Kotera, Adhikari, & Van Gordon, 2018), such as their

school or teachers. This type of stimulus is dissimilar to the previously discussed internal motivators because external motivators do not originate from within and cannot be regulated by the participant. This category is nested under this theme because it further reveals students' perceived notions of what propels their cyberlacking behaviors. Being in a school district with a 1:1 device to student ratio, participants in this study are immersed in an environment with easy access to technology. Furthermore, according to previous research, most teachers in such situations often enact explicit interventions to battle cyberslacking, such as creating specific rules (Cheong et al., 2016), closely monitoring students' use of technology (Cheong et al., 2016; Tasgold, 2013), and enacting consequences for inappropriate use of technology (Cheong et al., 2016; Hendry et al., 2016). All of these factors are external motivators students in this study mentioned, as well. These were narrowed into two subcategories: (a) access to devices and (b) the teacher.

Access to devices. Some students cited access to devices as providing an effortless path to cyberslacking. Each participant in this study was in possession of a school-issued Apple iPad. In addition, every participant also owned a smartphone. Furthermore, the school's rules about cell phones or other personal computing devices were not strict, allowing students access to their personal devices at all times during the day and leaving it up to a teacher's discretion as to their classroom guidelines regarding the use of these products. Therefore, access to a method of cyberslacking was ever present for participants in this study. While there are other external influences (e.g., teachers and parents) that provided the means for students to cyberslack, this subcategory is distinguished by its focus on the physical ability of students to cyberslack, while the next

subcategory is centered around the more abstract concept of rules and teacher vigilance. Students' access to devices in class correlates to the category of external motivators because it was a factor controlled by entities outside of the student, specifically the school. There are a myriad of off-task activities, such as games, surfing the internet, texting, and social media, readily available to students when they have access to technological devices during class (Harper & Milman, 2016; Preston et al., 2015), and students in this study admitted taking advantage of these opportunities as a result.

One student who acknowledged the availability of devices as affecting her cyberslacking was Priscilla. She said, "It's just 'cause it's available," suggesting that if it was not provided or allowed, she would not partake in cyberslacking as often. Also, during a discussion of addiction, Davis commented, "I don't think it's necessarily addiction for some people. It's just, like, we have [an iPad] — like, we have a phone" as he shrugged, indicating that merely having access to the devices increases the temptation to cyberslack. Angela also remarked

> Usually, when we, like, have an assignment, [it is] on our iPads … Not many of our projects or assignments are on paper anymore, but, I mean, definitely that causes kids to, like, want to veer off and do other things than what they're assigned to do.

She discerned a connection between the paperless aspect of many of her classes and the tendency towards cyberslacking because of the easily accessed devices. Furthermore, Bryan discussed the school's lenient cell phone guidelines. He said:

> I like the policy. I feel like it's necessary for us to have … just because certain sites on the iPad, for some reason, … are blocked …. Like, I mean I cyberslack

more of course, 'cause, like, I'm allowed to have my phone.

The students appreciated having access to their phones to visit blocked websites necessary for their research. However, Bryan's comment exemplifies how having this access leads to more cyberslacking. Moreover, Jade explored how having a school-issued Apple iPad has contributed to her cyberslacking behaviors. She explained, "I feel like it gives me more motivation to do it because there's more outlets, because it's not just my phone. Like, I have games on my iPad." These participants made a clear connection between access to devices and cyberslacking, illuminating this as an external motivator that influenced their off-task practices.

The teacher. The teacher is another external motivator that was a determining factor in participants' cyberslacking behaviors. Specifically, a teacher's disposition and rules about cyberslacking and personal devices influenced their practices. This subcategory is distinguished by its relation to the more abstract concept of teacher practices, rather than physical access to cyberslacking activities. It is linked to the category of external motivators because students had no control over a teacher's rules or feelings about cyberslacking; thus, the influence on cyberslacking behavior was being exerted from outside of the student. Previous researchers have found that most teachers share specific guidelines about the use of technology in their classroom with their students (Cheong et al., 2016). In addition, instructors typically endeavor to monitor and refocus learning activities when they notice students cyberslacking (Cheong et al., 2016; Tasgold, 2013). However, some teachers ignore cyberslacking altogether and allow students to regulate their own attention and learning (Cheong et al., 2016). Participants in this study confirmed each of these previous findings.

In the course of conversation, there were several mentions of teachers who imposed certain rules about the use of personal devices in an attempt to eliminate cyberslacking. For example, Michael shared:

> Our phones can't even be, like, in our pocket in my 4th block. It's like, when the bell rings, it has to be put up, and then you can get it out whenever the class is dismissed, but other than that it can't be out at all.

In addition, Eric also said, “In [one] class, I'm not supposed to have my phone out.” To this, Chad added, “You're just sitting there thinking, like, ‘My phone is literally, like, right there. Let me just go get it.’ But the teacher's like, ‘No.’ " These kinds of strict rules against cell phones seemed to reduce cyberslacking for many of the participants. Furthermore, students also discussed ways in which their teachers redirect their learning if they are found to be cyberslacking. Angela commented, “I've had teachers who have been so very strict about cell phones — like if they see it, they're gonna yell at you and embarrass you in front of the whole class.” Elijah also noted, “My third block [teacher] … used to have this little … red pointer, … so anytime someone would be on their phone, she would, like, point at it until they noticed and be like, ‘Lunch detention!’ " In addition, Jade commented about her theater teacher’s practice: “She's like, it's fine … as long as we're not doing stuff, but, like, she has, like, a box that she'll take [your phone] and, like, put it in.” According to participants, many of their teachers not only communicated strict rules to them about cyberslacking and using their personal devices, but they also enacted certain consequences to eliminate the off-task behavior and redirect students to their learning. Although students did not choose these rules or consequences, they were factors that influenced their cyberslacking choices.

Participants also mentioned instances in which the opposite was true. Some teachers did not impose rules against personal devices and left students to make their own decisions about cyberslacking. Angela said, "I've also had teachers that are just like — have that mindset of 'It's your learning, not mine.' " In addition, Bryan remarked, "Almost every time you walk over to my table, my phone's in my hand, like this [picks up his phone and looks at it]. And me and you sit there and have a conversation. I'll do what we're talking about. I'll go back to being on my phone." He indicated that there were no consequences, and I allowed him the freedom to make his own cyberslacking choices. Susan had also experienced similar situations: "I have several teachers where it's just basically kind of like where [cyberslacking is] our problem." Juanita agreed:

> I think it just kind of depends on the teacher … I guess like some teachers just kind of put it off on you. It's your education. Obviously, you should know that you don't need a phone to get through your day, so if you decide to use it instead of doing your schoolwork, that's your choice. And if you come out, like, with a bad grade, or if you don't do something up to par, then that's your problem, because you decided to do something else.

It seemed that in classes like these, the students were more motivated to cyberslack. To illustrate, Jimmy said, "I mean most of my teachers kind of just let me use it whenever, so I do." Not having rules and leaving the decision up to students about where to focus their attention definitely impacted students' choices about cyberslacking.

Summary. This theme examined the motivations students shared for their cyberslacking behaviors in focus group interviews. This included a discussion of both internal and external motivators. The analysis of these topics contributed to the goal of

this study by uncovering the reasons students engage in cyberslacking. Participants shared their personal reasons for cyberslacking, as well as the reasons originating from outside sources that were not under their control. The discussion from focus group interviews helped distinguish participants' motivations to cyberslack from their individual perspectives.

Perceptions of cyberslacking and its effects. During discussion, it was apparent that participants held specific personal interpretations, understandings, or ways of thinking about cyberslacking, those who cyberslack, and the effects of cyberslacking in general. Previous themes discussed centered around cyberslacking behaviors and motivations. However, this theme is distinct in its focus on what participants think about cyberslacking and how they view it as a practice in their lives. Students' perceptions emerged in four categories: (a) perceptions of the act of cyberslacking, (b) perceived effects on grades, (c) perceived effects on teachers, and (d) perceived effects on other students.

Perceptions of the act of cyberslacking. Perceptions are defined as the meaning students' attached to cyberslacking and with what connotation they viewed cyberslacking as it existed in their experiences. Participants' perceptions almost always overlapped with other themes and categories, as their impressions of cyberslacking were fully embedded in and woven throughout their conversations on every subject. This category reveals the students' personal ways of thinking about cyberslacking. There has been very little research conducted about how students perceive cyberslacking in general. However, it has been found that most students view cell phones as cyberslacking distractions in class (Jackson, 2013) and report feeling that dysfunctional uses of technology distract students

from their learning (Strom et al., 2016). Some evidence from participants in this study illustrated a similar view, although this was tempered with a conditional acceptance and even a positive perspective in certain situations.

Most participants agreed that some cyberslacking was normal, and as long as it was not incessant, they did not hold it in a negative regard. For example, when I asked how participants viewed people who engage in cyberslacking, Bryan answered, "I think they're normal." Michael immediately replied, "Yeah. I feel like it's not a problem." In addition, Jade said, "It depends on how much it is. If I see them constantly on it, they're lazy, but if, like, you're just looking at a little bit, I'm like, 'Okay, that's no big deal.'" Furthermore, Susan commented:

> I'd say, like, sometimes there's, like, the occasional student where it's like they're just being rude, and they don't care, and they'll just be on their phone the whole time and not get their work done, as opposed to a majority — I think a majority of students — like, they'll get their work done and just kind of multitask.

Tyrone also noted:

> I think it kind of depends on, like, the situation you see someone cyberslacking in. I mean, like, if you know that person, you know, like, they're a hard worker outside of school, and you don't really draw any, like, negative assumptions about it.

Participants' comments indicated they believe cyberslacking to just be a way of life in high school, but they did not find it particularly problematic if it was not continuous. However, participants did express the idea that too much cyberslacking was disadvantageous to students' learning. Angela admitted:

> I get on my phone too much. Like, even when I get home, instead of doing my homework, I choose to play on my phone. Like it's become an issue, and I definitely — before I get to, like, next year, I need to work on that a lot … this is really bad because it definitely distracts from [my] learning.

Additionally, Micheal remarked, "I feel like if you're on your phone, like literally the whole class that you just don't care." Jade responded, "Yeah. They're lazy." Students' perceptions of cyberslacking seemed conditional, dependent upon the extent to which a person engaged in cyberslacking during class.

Although students did not believe that cyberslacking was necessarily a negative thing in and of itself, they did show a desire to demonstrate respect to their teachers. Therefore, some participants indicated they felt guilty cyberslacking in classes where their teachers did not approve. Vanessa said, "If the teacher's standing in front of the classroom, I wouldn't do it. 'Cause I think that's, like, rude." In addition, Angela commented, "Like, I mean if you asked me to put my phone away, of course I will because it's disrespectful to, like, be on your phone when they're trying to talk to you and stuff." Bryan also tried to be considerate in his cyberslacking habits: "Out of respect for my teacher — like, if you're talking, I'm not gonna be on my phone. Or if you're talking specifically to me, 'Bryan, what do you think about this?' I'm not going to be on my phone." Priscilla also noted about her cyberslacking: "I don't want my teachers to think I'm disrespectful." Leilani agreed. She remarked:

> Teachers — they set up their lesson plans, like, they do everything in advance, and they put up with so much, like, ever to, like, make the work for that day, and then, you know, if you were just on your phone, if you think about it, that's just …

> disrespectful because they actually have, like, this whole thing planned out for the class and they work so hard to do stuff like that."

Even though students did not exhibit negative feelings towards cyberslacking in class, they perceived that their teachers did. As such, they sometimes changed their behavior out of respect for the teacher.

In addition, some students displayed favorable perceptions of cyberslacking. They believed that taking a break to cyberslack was positive for them during stressful classes and assignments. For instance, Jade said she thought that without cyberslacking breaks, school would "feel a lot harder. More stressful." Priscilla also noted that taking a break helped "break ... up [her] focus and switche[d] it to something else" so that she could keep her mind from becoming too bogged down in heavy material. In addition, Bryan said, "I get frustrated or I feel like I need a break" at times, and cyberslacking for a short period served to ease that problem. Furthermore, Angela stated, "If you just try and spend a whole 80-minute period focusing and doing nothing but the work, it's so draining. Like, it is so exhausting." When cyberslacking was used as a way to take a brain break to escape the stress of class or an arduous task, students viewed it from a positive perspective.

Perceived effects on grades. Students also discussed whether their cyberslacking habits made a difference in their grades. Participants discussed grades in relation to scores received on individual assignments, as well as their overall mark in a course. This topic is distinct in its direct correspondence to participants' academic achievement, whereas other ideas students examined within this theme were connected to perceptions as they related to cyberslacking in general or its effect on other people. This category

describes students' personal understanding of how cyberslacking affects them academically. There has been a great deal of research on how cyberslacking impacts academic achievement, and the general agreement is that it has a negative effect (Bellur et al., 2015; Duncan et al., 2012; Junco, 2012; Perry & Steck, 2015; Ravizza et al., 2014; Risko et al., 2013). Although some students' perceptions were in line with these findings, there were also a number of participants whose beliefs differed.

Like the previous findings, some participants perceived a negative effect on their grades due to cyberslacking. Jade confessed:

> Well, it's like, for me, in Chemistry, I cyberslacked a lot, like, that first couple of weeks when we were learning, and then I made a C on my first test …. And then I realized — I was like, "Clearly what I'm doing is affecting my grades, so let me stop and pay attention."

Michael concurred. She gave an example from her own experience, as well:

> I know in Chemistry specifically, like, say we have a unit, and I didn't get a grade I liked. Then, like, whenever it was time for the next unit, I'd be like, "Okay, I'm not going to be on my phone as much." …. [My friends and I] don't get on our phones that much in the unit, and we get better grades. So it's like we knew we could do better. We just didn't want to.

In addition, Eric commented:

> Earlier in the year, I didn't really cyber slack …. But as time passed on, ... I started to slack off more. I started to do less assignments and stuff like that, so yeah, if you checked my grades from, like, first quarter, … they kind of high grades, and you get down here [to second quarter], you got Cs, Ds, stuff like that.

Angela also noticed a negative effect. She stated, “I'm definitely, like, a straight A student that's making Bs, and I'm not gonna make excuses. It's ’cause, like, I get on my phone too much.” These participants noticed a negative correlation between their cyberslacking and their grades. Interestingly, these same participants actively participated in the discussion about their various cyberslacking activities. They clearly see a negative connection, but they continue to choose to participate in cyberslacking on a regular basis.

Contrary to previous findings, other students believed their cyberslacking had no effect on their academic achievement. In response to my question about the academic effects of their digital off-task behaviors, Bryan said, “I don't think it has one …. It doesn't affect my grade.” Priscilla agreed. She said, “Mine didn't have much of an effect, just because, like, I still always … get my work done, and I have good grades.” Susan also stated, “I don't think [my grades are] too affected.” Furthermore, Tyrone remarked:

> I don't think it really affects my academics, ’cause, like, if I maybe miss out on a chance to do an assignment, um, because I'm cyberslacking … I just do it at home. Like, that's the first thing I do when I get home.

These participants believed they were able to balance their cyberslacking with their attention and work, and they did not perceive any effects on their grades at all.

Perceived effects on teachers. In addition to grades, participants also noticed that cyberslacking had an effect on teachers. While other categories in this theme also pertain to the effects of cyberslacking, this category is distinguished by students’ focus on how they believed teachers were impacted by cyberslacking in their classrooms. It is related to

the theme in that it illustrates participants' perceptions of cyberslacking and its effects. Prior research revealed that teachers believe technology use in their classrooms, including the use of mobile devices, has a positive impact on access to information (McRae, 2016; O'Bannon & Thomas, 2015; Strother, 2013), as well as communication, inquiry-based learning, and differentiation (McRae, 2016). However, previous studies have also shown that cyberslacking is a major concern for teachers when using technology (McRae, 2016). Students in this study commented mostly on this negative view they believed their teachers held and the adverse effects on their teachers as a result.

Students indicated they believed their teachers experienced unfavorable effects due to student cyberslacking. When I asked how students thought their teachers felt when they cyberslacked in class, Jade responded, "Disrespected. I know my Theater teacher, if you're on [your phone] while she's talking to you, she's like, 'That's disrespectful, and, like, it hurts me." Elijah also commented, "I think they get annoyed," and Michael nodded her agreement and said, "Yeah." In addition, Leilani and Angela had this exchange:

Angela: I don't think they, like, hate [cyberslackers] but definitely —

Leilani: It's disappointing.

Angela: Yeah, it is disappointing, 'cause like Leilani said, if you're talking to someone, and they're on their phone, and they're not really paying attention to what you're saying, that's aggravating. So I can only imagine, like, if it's a teacher teaching a class full of 20, 25 students and five to 10 of those students are on their phones, not paying attention. Like, that would aggravate me.

Some participants shared specific evidence to show the negative effects of cyberslacking on their teachers. For example, Michael said, "A lot of our class failed a test that we took on Friday, so our teacher was yelling at us about how we don't pay attention in class, which we don't, because we're on our phones." Her comment implied that her teacher was visibly upset because of their constant cyberslacking. Elijah also remarked, "In your class, like, you don't say anything about phones, but I know you have, like, a certain feeling about it, so every time you walk around I'll, like, put my phone down." This suggested that her teacher had shown at some point that her feelings towards cyberslacking was negative. The majority of participants perceived a negative effect on their teachers as a result of cyberslacking.

In contrast, a few students believed that it did not have an effect on their teachers or that the effect depended on the student. For example, Anglea said, "I think honestly it's getting to the point where … [teachers are] starting to realize that, like, it's your learning — It's up to you if you want to get on your phone and interfere with your learning. Like, that's your decision." In addition, Chad said, "Teachers won't care if we [cyberslack] or not, as long as we finish our work, but obviously, teachers will depend on us learning, and if we use our phone, that's our problem. It's our learning not, not theirs." However, Vanessa asserted that it depended on the student who was cyberslacking. She remarked:

> Like, if you have a student that is, like, in your class that's passing and getting all their work done — straight As — most teachers just don't — yeah, they gonna look past it. But if you've got a student in your class that's, like, failing — they

always on their phone — then I guess the teacher thinks, like, his priority or her priorities aren't straight.

These comments seemed to indicate that there was a negative effect on teachers' feelings towards certain students who cyberslacked. Participants believed that because their teachers placed the impetus for learning on the students, usually students' choices to cyberslack did not affect their teachers, and if it did, it was selective based on the student.

Perceived effects on other students. A topic that frequently emerged during focus group discussions was the reciprocal effects of cyberslacking on other students. Participants defined these effects partially as the ramifications they personally experienced as a result of other students cyberslacking in the same class with them. In addition, students also interpreted it in terms of consequences for their classmates as a result of participants' own cyberslacking. While perceptions of cyberslacking in general and the effects of cyberslacking on grades and teachers were discussed previously, this category focuses on how one student engaging in cyberslacking may affect another student, either directly or indirectly. These outcomes are related to the theme in that the comments students made in regard to these repercussions represent what they believe to be the effect of cyberslacking from student to student. Previous research shows that students are distracted by their classmates who cyberslack (Currie, 2015; Jackson, 2013; Sana et al., 2013; Taneja et al., 2015). Students in this study confirmed this prior research, making reference to the following topics: (a) perceived effects of classmates' cyberslacking on participants and (b) perceived effects of participants' cyberslacking on classmates.

Perceived effects of classmates' cyberslacking on participants. Participants indicated they often noticed other students cyberslacking. In conjunction with this, they also noted other students' cyberslacking behaviors affected them personally when they were working collaboratively with their classmates. Focus group discussion on this topic overlapped somewhat with students' comments about how their own cyberslacking may affect others. However, this category is treated separately in that it pertains specifically to the behaviors students noticed in their classmates and the effects of these activities on participants. The perceived effects of classmates' cyberslacking on participants relates to the category because it illustrates the effects one students' cyberslacking may have on another.

Participants acknowledged when they did notice other students cyberslacking around them, their classmates were typically doing so via activities similar to those in which they engage themselves. For instance, Chad said he noticed other students "just using their phones." Leilani agreed. She stated, "If you look around, you're not the only one [on your phone]. Most likely, you see someone at least just, like, check their phone if they have it out." Angela also noted, "As far as, like, other students — I think when they're all in a class together, and if they have friends, one thing they usually do is play games with their friends." In addition, Bryan said, "I feel like everybody does the same stuff to a point" when they cyberslack. Participants often observed their classmates partaking in cyberslacking. Furthermore, all of the activities mentioned by students were comparable to what they indicated they did themselves when they cyberslacked.

In addition to noticing cyberslacking among other students, some participants also remarked on the ways in which this influenced or affected them. All of their discussion

on this topic was focused around their experiences in groups during class. Elijah said, "When I'm in a group of people, and I — like, if there's four people in the table, and I see three people on their phone, I'm like, 'Well, dang. I got to get my phone out'…'Cause I would just sit there looking awkward." Michael responded, "Yeah, exactly." Leilani also comment on how others using their phone affected her during group work: "One of my biggest pet peeves, I guess, is, like, when I'm talking to someone, and they're on their phone, … and they just, like, ignore what I'm saying because they're just so caught up on their phones." In addition, Tyrone expressed his impression of cyberslacking by groupmates:

> If you're doing a group project with someone, and instead of working, someone's just on their phone the whole time, …. that's kind of annoying, because they're kind of making you pick up their slack because they can't pay attention and get off their phone.

Overall, students expressed feeling displeasure or discomfort when other students in their groups cyberslacked during class time. Their comments and tones reflected that they felt negatively impacted by this behavior. There was very little mention of cyberslacking classmates who were not part of participants' immediate group or in situations other than group activities. However, the general attitude appeared to be that students believed it did not affect them at all. Juanita said, "If you come out, like, with a bad grade, or if you don't do something up to par, then that's *your* problem because you decided to do something else." Other students nodded their agreement. Participants seemed to all agree that what others did outside of group work had no bearing on their own personal experiences.

Perceived effects of participants' cyberslacking on classmates. Students also discussed the reciprocal of how they are affected by others: ways in which their own cyberslacking may impact their classmates. This concept is distinguished by outcomes originating from the participants' own cyberslacking. This subcategory demonstrates the student-to-student result of cyberslacking in class. Previous research found that about one third of students believed their off-task use of technology in class may be distracting to others (Jackson, 2013). However, in this study, few of the participants agreed with this notion, unless they explicitly drew their classmates into their activity.

Participants believed their own personal cyberslacking had little effect on their classmates, unless the cyberslacker engaged the other student directly. For example, Bryan said, "Unless, I'm tapping you, like, 'Hey look at this,' I feel like it shouldn't affect you." Jade and Elijah both agreed.

Jade: Yeah, if you, like, engage them and be like, 'Hey, look at this meme' or, 'Oh my gosh, it's so funny.' And they're, like, 'Oh what is it?'

Elijah: Or when you're arguing with [someone], and you're like, 'Oh, my God! Look what he just said!'

However, Jade also admitted, "Maybe like the person beside of me" could be affected, even if she did not actively engage her classmate intentionally. Michael also conceded, "Yeah, I guess it depends on the person." Therefore, while students mostly thought their cyberslacking did not affect others unless they specifically pulled their classmates into their activities, they did allow that some of their classmates may be affected.

Summary. This theme explored participants' perceptions of cyberslacking and its effects. This included a discussion of their perceptions regarding the act of cyberslacking, its perceived effects on grades, its perceived effects on teachers, and its perceived effects on other students. The analysis of these topics contributed to the goal of this study by illuminating students' personal understandings and beliefs about cyberslacking and its consequences. Participants shared their individual views of cyberslacking and their speculations about the impact cyberslacking had on their grades and others. The discussion from focus group interviews helped establish participants' ideas about these issues from their own perspectives.

CHAPTER 5

DISCUSSION, RECOMMENDATIONS, IMPLICATIONS, AND LIMITATIONS

The purpose of this action research was to describe students' understanding of cyberslacking and its academic and social effects in my English 3 Honors and Films Studies classes at Carraway High School in order to make recommendations about ways in which teachers and other stakeholders should approach technology use in the classroom. This chapter presents the findings in relation to the research questions and the literature regarding cyberslacking. In addition, recommendations, implications and limitations are discussed.

Discussion

To answer the research questions driving this study, the quantitative and qualitative data were combined and considered in conjunction with the literature regarding previous studies on cyberslacking. In an attempt to provide an integrated understanding of the findings, the discussion is divided into four sections, one for each research question: (a) Research Question 1: How frequently do students engage in cyberslacking during class? (b) Research Question 2: In what kinds of cyberslacking activities do students engage during class? (c) Research Question 3: What do students feel leads them to cyberslack? and (d) Research Question 4: What are students' perceptions of cyberslacking and its academic and social effects?

Research Question 1: How frequently do students engage in cyberslacking during class?

Prior research illustrates that most students use technology for activities other than course-related tasks at some point in class (Currie, 2015; Jackson, 2013; Judd & Kennedy, 2011; Kraushaar & Novak, 2010; Portanova, 2014; Ragan et al., 2014). To determine how often students engaged in cyberslacking in this study, the results from all three data collection methods were combined. Information from observations, surveys, and focus group interviews were triangulated to provide a unified illustration of students' cyberslacking frequency. Over the course of data analysis, two specific categories emerged in regard to the occurrence of cyberslacking: (a) frequency and (b) duration.

Frequency. In a study by Kraushaar and Novak (2010) students were using non-course related applications about 42% of the time during class. In addition, Ragan et al. (2014) observed students participating in off-task activities using technology about two-thirds of the class period. Similarly, participants in this research also demonstrated a propensity for cyberslacking. According to observation data, an average of 23 cyberslacking events were witnessed per 45-minute observation. This means that *someone* in class was cyberslacking approximately once every two minutes. Although this may not have been the same student each time, individual surveys also indicated a high frequency of cyberslacking. Eighty-eight percent of students admitted to cyberslacking during the class period immediately preceding the surveys. Although the highest reported frequency was between one and three cyberslacking events (55%), 15% of students confessed to having been off task on their devices more than five times. Moreover, students in focus group interviews readily admitted to participating in

cyberslacking regularly. *Every* participant in focus group interviews admitted to cyberslacking in almost *every* class. For example, some estimated their numbers at "probably, like, 20" times or "maybe about five times" in a class period. A few participants admitted being off-task "on technology the whole class" or that they "cyberslack[ed] extremely hard," meaning it was an almost constant occurrence. Other students used statements such as "I do it all the time" or "it's a good many times." Although the numbers vary somewhat, these findings confirm previous research, in that high school students frequently participate in cyberslacking during class time.

Duration. In addition to frequency, duration was also an important aspect of student cyberslacking. Although, there is scant research illustrating the duration of cyberslacking itself, in a study by Rosen et al. (2013), participants averaged less than six minutes on task before succumbing to technological distractions. This could provide insight into the amount of time students spent cyberslacking in this study. It seemed that participants' cyberslacking cases were one extreme or the other: a quick check or an extended session. According to observation data, 49% (M = 5.33; SD = 3.14) of cyberslacking events lasted less than one minute. These data correspond to the information collected from surveys, as well. Forty-nine percent of participants self-reported a duration of less than one minute for each of their cyberslacking events. However, during observations, the next largest portion of cyberslacking occurrences (25%; M = 2.67; SD = 2.88) were witnessed for more than three minutes, although only 6% of students self-reported on surveys a duration of more than three minutes.

In focus group interviews, students were more willing to admit their extended bouts of cyberslacking. While a few students agreed that "it's so quick. It's, like ... a 32

second, like, you're not even on it for, like, a minute," or "it's just a couple of seconds," other students confessed "it's usually like five or 10 minutes" or "like, almost a whole class period." Several participants mentioned how one activity leads to another, and they "just kind of can't stop unless [they're] forced to." This corroborates a study by Aagard (2015) which found that students' cyberslacking behaviors were often so deeply ingrained that they were engaged in these activities before they were even consciously aware that it was happening.

Nevertheless, it was also mentioned that the duration of their cyberslacking depended on various factors. For example, a couple of students in this study said it depended on the day and what they were doing in class, to which several other students agreed. It could also be related to the type of activity in which they were participating. For example, Vanessa said, "Like, if I'm on Instagram, and I'm scrolling, going through, I'll see everything, and then I'll click my phone off then, but if I'm watching, like, a video or something, then it'll be longer." The duration of cyberslacking could not be generalized to all participants, class periods, or cyberslacking activities.

Frequency and duration varied among students, depending on their work ethic and disposition, was determined by the day and class events, and was influenced by the type of cyberslacking activity. In addition, how often students participated in cyberlacking was mediated by strategies students, teachers, and parents put in place to eliminate cyberslacking, such as settings on devices, location of devices, rules, consequences, and monitoring applications. These strategies will be discussed more fully under Research Question 2. Furthermore, according to Duncan et al. (2012), students have a tendency to

underreport the frequency of their own cyberslacking by about half. This may account for the variations between observations and surveys.

Research Question 2: In what kinds of cyberslacking activities do students engage during class?

As previously noted, students remain on task for an average of fewer than six minutes before switching to cyberslacking (Rosen et al., 2013), which illustrates their attraction to off-task activities. Prior research has also shown that students are typically engaged in a diverse mix of activities during their cyberslacking sessions (Awwad et al., 2013; Bellur et al., 2015; Currie, 2015; Jones, 2016; Judd, 2013; Ravizza et al., 2014). The participants in this study were no different. When the data from observations, surveys, and focus group interviews were combined, three specific categories of activities emerged: (a) staying connected to others, (b) entertainment, and (c) avoidance behaviors.

Staying connected to others. Studies have indicated that students habitually leverage technology in the classroom to sustain a connection to the outside world (Aagaard, 2015; Chen & Donmez, 2016; Olufadi, 2015). One such method students use to do this is texting, and previous research shows that about 92% of students acknowledge texting in class (Tindell & Bohlander, 2012). In addition, students often stay connected through social media (Andersson et al., 2014; Awwad et al., 2013; Bellur et al., 2015; Currie, 2015; Jones, 2016; Judd, 2013; Ravizza et al., 2014). Findings in this study confirm the pervasiveness of these two types of cyberslacking. Observation data revealed that the most prevalent cyberslacking activities in which students participated were texting and Snapchat. On average, 39% (M = 8.67; SD = 5.35) of all observed cyberslacking events involved texting, and in 29% (M = 6.50; SD = 4.51) of observed

events, students were using Snapchat. In addition, 27% of participants reported on surveys that they had texted during the class immediately preceding the survey, 18% admitted to using Snapchat, and 15% indicated they used Instagram. Moreover, 24% of survey respondents noted that they cyberslacked due to notifications on their devices; most likely these notifications were due to incoming messages. Observations and survey numbers, while not exactly the same, were similar and show students' propensity towards texting and social media use.

Furthermore, in focus group interviews, students mentioned texting more than any other activity, with 100% of participants admitting to texting during class on almost a daily basis. Some students texted regularly because they "have a lot of friends that [they] talk to, like, all the time" or they texted with their "family members." In addition, several students stated that they "scroll through social media" or spend time on "social media, checking, like, Instagram and stuff." Most students indicated they used "mainly Instagram," although both Snapchat and Twitter were also mentioned more than once in discussion. In fact, one student was even texting during the focus group interview, and another was looking through posts on Twitter.

The inclination towards this type of activity illustrates students' need to maintain a connection to the outside world. Although only 2% of respondents selected "I feel like I'm missing something if I'm not checking my personal devices and apps" on the survey, this topic came up repeatedly in focus group interviews. Students said that when they were not cyberslacking, whether this was a voluntarily choice or not, they often "wonder[ed] if, like, there's anything online, like a new thing on [their] phone to like," or they know their friends are texting and they "have to see what they say." One student put

this feeling into words when she said, “That's how I stay connected to, like, the world. So it's like, without my phone … it's like the world's going on. Like, things are going on, and I don't even know what's happening.” It is evident that students feel a deep connection to their devices because of its role in maintaining their relationship with the external world; this need is reflected in their choice of cyberslacking activities.

Entertainment. Past studies have revealed that students frequently use technology for entertainment, such as gaming (Jones, 2016) or watching videos (Currie, 2015), rather than focusing on their coursework. Students in this study confirmed this type of use for their devices as the second most significant cyberslacking activity, after communicating with the outside world. Observations showed that 5% (M = 1.17; SD = 1.47) of all cyberslacking events witnessed included games, and 3% (M = .67; SD = 1.63) constituted watching videos. Other events (16%; M = 3.67; SD = 3.33) involved students engaged in various types of entertainment, such as searching through or listening to music, looking at themselves in the camera, or looking at photographs. These observations were corroborated by the findings from participant surveys. For example, 4% of the students indicated that they had played games in the class period immediately preceding the survey. Additionally, 4% of participants selected “watching videos” as an activity they had engaged in during class that day, and 21% noted cyberslacking with miscellaneous other types of entertainment, such as taking selfies and looking at themselves in the camera, reading non course-related materials, and browsing the internet.

In focus group interviews, the participants also shared that they often seek out entertainment during their cyberslacking sessions. During discussion, more students

admitted to watching videos during class than the observations and surveys seemed to indicate. Several students talked about watching TV shows, movies, and videos uploaded by internet users. For example, one student said, "If you're not on social media, you're watching some kind of video." Participants specifically mentioned "watching YouTube" and "watching stuff on Netflix." One student even admitted, "There's two shows that I watch that, like, air on Tuesdays, and so I watch them on, like, Wednesdays [in class] whenever they're on the NBC app." Although it was a smaller number, a few students also discussed gaming as an entertainment activity. Participants made remarks like "all we do is play games on our iPad" or "I have games on my iPad." One student commented "I didn't do anything [in class]. I played 2K," which is a basketball game. Furthermore, two students mentioned that they "pull out that [Apple] Photo Booth app and play with the little filter," and "look at [themselves] in the camera sometimes." In addition, some students specifically noted they "mainly just use [their phones] for, like, music" during class, and that in some classes they work more independently, so they can just "like, set [their] music or whatever" and listen while they work. However, one student admitted that she got so preoccupied with her music that she "ended up not being able to get [her] work done because, like, [she] was too busy worrying about what [she] was listening to." Cyberslacking for entertainment seemed to be a regular occurrence for students in this study.

Adolescent boredom, especially in an educational setting, is nothing new. However, in today's world of easily accessible electronic entertainment, boredom is now relieved quickly and without great effort by escaping into the high-stimulation distraction of digital devices (Pickhardt, 2013). This tendency is evident in the cyberslacking

activities of participants in this study. The students' propensity for playing games, watching videos, surfing the internet, or otherwise seeking out entertainment from their devices, illustrates their awareness of and their inclination to take advantage of these convenient cyberslacking distractions to immediately alleviate boredom.

Avoidance behaviors. In addition to activities that directly represented cyberslacking, students also engaged in behaviors to avoid being caught cyberslacking. Although no information was collected regarding this practice from surveys, there was evidence of it in both observations and focus group interviews. Observations showed that more cyberslacking took place when I was either at the front (37%; $M = 4.33$; $SD = 2.94$) or back of the room (24%; $M = 2.83$; $SD = 2.79$). In the classroom in which this study took place, these positions offered me the least visibility as to the activities with which students were engaging on their devices. However, only 20% ($M = 2.33$; $SD = 1.86$) of cyberslacking events were observed when I was circulating around the room. This seems to show that some students stopped cyberslacking when I was in proximity or had a greater likelihood of seeing their off-task behavior in order to avoid detection and negative consequences. In observations, it was also noted that fewer cyberslacking events were observed when I was at my desk (13%; $M = 1.50$; $SD = 1.38$) or at the conference table (6%; $M = 0.67$; $SD = 1.63$). However, these lower numbers most likely occurred due to the fact that I was rarely in these locations, providing less time during which cyberslacking events could take place.

In focus group interviews, there was much discussion about ways in which students could avoid being discovered cyberslacking by their teachers. Participants offered ideas such as to watch for "the blue [bar] on top of the screen" that showed up

when their teacher was viewing their activities through Apple Classroom. In addition, they also mentioned such tactics as to "just turn [Bluetooth] off" or "turn [their] brightness all the way down." With Bluetooth turned off, teachers could not access student devices through Apple Classroom, and a darkened screen shielded activities on Apple iPads. Furthermore, one student commented that "every time [my teachers] walk around, I'll, like, put my phone down," and this was confirmed by other participants as something they also do.

This type of avoidance behavior could be attributed to students' beliefs about the negative social consequences of cyberslacking. Their actions indicated they believed that if they were found to be cyberslacking during class time, they may receive a punishment, their teachers may be disappointed in them as students, or their teacher's opinion of them may deteriorate. Relationships with their teachers are important to students and how they perceive their educational experience. Students value a positive student-teacher relationship and seek this out in the classroom (Fredriksen & Rhodes, 2004). Participants did show a concern for how their teachers viewed them as students, and this need to be regarded positively by their teachers, paired with their dislike for chastisement and negative consequences, often resulted in their attempts to hide or disguise their cyberslacking.

Another type of avoidance behavior found in participants was related to their own self-control and attempts to circumvent the temptation to engage in cyberslacking altogether. Self-regulation involves a student's ability to adjust his or her behaviors to meet changing environmental conditions for the purpose of accomplishing certain goals (Kaur, Saini, & Vig, 2018). Students in this study employed self-regulatory strategies in

class. No data were collected regarding this behavior from either observations or surveys, as there were no categories or questions that anticipated this type of activity. However, evidence of this behavior by students emerged during focus group interviews. Participants mentioned several strategies they employed or were subjected to in order to try to eliminate cyberslacking. For example, students said they used airplane mode or Do Not Disturb to prevent notifications from coming through in class. Another strategy was to "plug [their phone] up in the back of the room" where they "can't reach it." One student commented that he used willpower to "make sure [he was] not on [his] phone" so he could "focus more." Another student said, "I'd reach for my phone, but I'm like, 'No, I need to pay attention.' " When these self-imposed approaches to avoiding cyberslacking were mentioned, other students nodded or agreed that they, too, had used these or similar methods to keep their off-task behavior in check.

In addition to their own personal choice to avoid cyberslacking, students also discussed taking part in certain actions to curtail cyberslacking because they were directed to do so by their teachers or parents. For example, teachers sometimes had students "put [their] phone in a box and lock it" or "in a little … lock bag" to reduce distractions. Some students' parents also used applications to monitor their device usage during school hours, which participants indicated forced them to "be focused on [their] class work." Although participants did not choose these techniques, they were able to see the value in them and experience the positive results. As one student said, when these practices were imposed by teachers or parents, she "wasn't thinking about her phone; [she] was on [her] work." Whereas students would not choose these particular tactics for themselves, they did aid in reducing cyberslacking for students.

The personal choices made by students to reduce their own cyberslacking and their acknowledgement of the positive effects of teacher- and parent-imposed regulations show self-reflection and knowledge of their own attention difficulties due to the attraction of their devices. One element of metacognition is the ability to monitor one's capabilities and develop plans to enhance performance (Dunlosky & Thiede, 1998). Participants considered the limits of their multitasking ability, and this reflection led them to seek ways to manage cyberslacking. Students recognized the allure of technology and its off-task possibilities, and they either personally took steps to avoid cyberslacking or acknowledged the benefits of doing so, either by their own choice of because a teacher or parent required it.

Devices. In addition to the actual activities in which the students engaged during cyberslacking, it was also of note which specific devices students used to participate in these behaviors. Brooks (2016) reported that 96% of students own a smartphone and 29% own wearable technology such as smartwatches. In addition, the school in which this study took place had a 1:1 ratio of devices to students. In fact, every participant in this study had both a school-issued Apple iPad and a personal smartphone. In addition, some students also had smartwatches. Of these three devices present in the classroom during this research, only 3% ($M = 0.33$; $SD = 0.52$) of all cyberslacking events witnessed during observations occurred using smartwatches. Similarly, 5% of survey respondents indicated smartwatches as a device they employed for cyberslacking during the class immediately preceding the surveys. None of the focus group participants owned a smartwatch, although they did mention briefly they had "see[n] a lot of people on their Apple Watches during class." Smartwatches were not a common choice for

cyberslacking in this study. This may be due to the fact that they were not as prevalent as other devices, they are limited in their abilities, and the screens are small and less conducive to the types of activities that often enticed the students in this study.

A device students used more often than smartwatches for cyberslacking was their school-issued Apple iPads. Twenty percent (M = 2.50; SD = 2.07) of cyberslacking events noticed during observations occurred on Apple iPads. Surveys illustrated a similar finding in that 22% of respondents marked that they had used their Apple iPads for cyberslacking that class period. However, in focus group interviews, several students asserted that they "don't even use [their] iPad anymore …. except for school-related stuff" and they "don't care about the iPads anymore." Students believed that when the Apple iPads were new, everyone "want[ed] to download all the games" for cyberslacking, but now they "very rarely see people [cyberslacking] on their iPads." Participants seemed to equate the Apple iPads more with educational activities in the classroom. This could be explained by how the novelty effect erodes as students become more familiar with new technology, resulting in decreased excitement and interest (Keller & Suzuki, 2004). In addition, the lack of interest in using iPads for cyberslacking may be ascribable to the school's restrictions placed on these devices (e.g., blocked websites and applications) and the ability of teachers to monitor students' activities in real time using the Apple Classroom. In addition, the Apple iPads could only be used on the school's WiFi network, which was monitored by the school district's filters. The district's constraints also prevented the download or use of certain software, specifically messaging and social media applications, both of which were top choices for

cyberslacking among participants. Students had less freedom to cyberslack using these devices; therefore, they mostly used another device: their personal smartphones.

Smartphones were the number one device used for cyberslacking in this study. Seventy-seven percent (M = 9.67; SD = 3.27) of cyberslacking activities noticed during observations were documented as having taken place through the use of a smartphone. Likewise, surveys revealed that 73% of respondents admitted to having used their smartphones for cyberslacking during the preceding class period, and 66% indicated they used their cellular network. Moreover, *every* participant in focus group interviews confirmed that they used their phones for cyberslacking. Students made comments like, "I just use my phone" or "It's really just phones" when asked what device they preferred for off-task behaviors. Furthermore, during the focus group interviews, *every* student had their personal smartphone with them, either on the table in front of them or in their laps. In fact, on three occasions during the interviews, students actually used their phones. One student was texting "someone to meet [her] in the bathroom" after class; another student's phone rang, and she checked to see who it was and silence it; and a third student was caught scrolling through his Twitter feed. Students defaulted to their personal smartphone and cellular network for most of their cyberslacking activities. This could be attributed to several possible reasons. Students experienced more freedom on these devices and networks, since they were not monitored by the district and could not be viewed by their teachers remotely. In addition, they were more familiar and attached to their own personal devices than they were to their school-issued Apple iPads. Furthermore, because applications were not restricted by the school district, they had access to more of the specific activities in which they mostly participated during

cyberslacking, such as texting and social media. These less limited opportunities are most likely the reason students chose their smartphones more than any other device for cyberslacking.

Research Question 3: What do students feel leads them to cyberslack?

This study revealed that participants were influenced to cyberslack by a variety of factors. These reasons included both internal and external motivators. Internal motivators were personal conditions originating from within students themselves that shaped their cyberslacking habits, such as feelings, knowledge, habits, and comfort level. External motivators were circumstances originating from sources other than the participants that impacted their cyberslacking behavior, such as teachers, rules, and environment. Varol and Yildirim (2019) found that students are motivated to cyberslack by an assortment of variables, including those that are instructor-, content-, environment-, and student-related. This study corroborated these findings, and they are combined into two distinct categories: (1) internal motivators and (2) external motivators.

Internal motivators. Students are typically influenced to cyberslack by multiple student-dependent variables. Taneja et al. (2015) found that students' cyberslacking habits are affected by factors such as consumerism, escapism, lack of interest, and anxiety — all of which originate from within the students themselves. This study corroborated these findings and added further internal motivators by which these particular participants were impacted. For this section, the internal motivators are discussed in two categories: (a) anxiety and (b) feelings toward and beliefs about the course subject.

Anxiety. Previous research shows that students often experience feelings of anxiety linked to cyberslacking (Taneja et al., 2015). Many students in this study expressed similar apprehension, and they disclosed how these feelings of unease have led to habits and technology dependence. Although only a small percentage of survey respondents indicated they cyberslacked because of anxiety (2%) or because they feel they are missing something (2%), 14% indicated they cyberslack out of habit. Focus group interviews illustrated students' experiences regarding anxiety and these cyberslacking habits more fully. Most focus group interview participants acknowledged they had "the habit of just, like, checking what's up on [their] phone[s]" and that when they do not have their phones with them, they "still have that urge." In addition, some students admitted to "freaking out, like, getting really bad anxiety" when they could not access their personal devices, sharing how "stressful" it was and how "worried" it made them feel. Furthermore, although the majority of students asserted they "don't think [cyberslacking is] an addiction," they repeatedly made comments that seemed to contradict this assessment. They used words such as "need to," "have to," and "can't stop" when discussing their urges to cyberslack, which correlate to addictive behaviors.

It may be that students in this study were unknowingly sharing their experiences with nomophobia, which is a twenty-first century phobia defined as the discomfort and anxiety caused by the lack of availability of a mobile phone (Wang et al., 2014). It can also include the fear of having no access to information or losing the ability to communicate with others (King et al, 2014). In addition, Gurbuz and Ozkan (2020) found that young people's level of nomophobia was highest during their high school

years. This could explain the strong anxiety students in this study experienced as a result of being cut off from their personal devices.

In addition, to *causing* anxiety, this study also found that participants used cyberslacking as a way to *alleviate* anxiety and stress. Gerow et al. (2010) reported that students frequently employ coping techniques to deal with stressful situations, and it became clear in this study that participants used cyberslacking in this capacity. When asked about the positive effects they experience as a result of cyberslacking, 18% of survey participants in this study marked "anxiety or stress relief," 21% selected "reduced worry," and 11% chose "helped maintain a relationship." The findings from focus group interviews illuminated these effects more clearly. For example, students explained that cyberslacking is "how [they] stay connected to everybody" and "the world." Students said they could use Do Not Disturb on their phones and "be good for a little while, but then I start to, like, wonder sometimes" and experience the anxiety that comes with the lack of connection. Cyberslacking to maintain this social connectedness helped relieve their uneasiness.

According to Maslow (1971) social connectedness is a basic human need, and adolescence is a crucial period in which humans build these social connections (Lee & Robbins, 1998; Moore, 2006). In the digital age, the use of technology and social media can help strengthen these connections by facilitating interpersonal communications (Grieve, Indian, Wittenveen, Tolan, & Marrington, 2013; Kraut, Kiesler, Boneva, Cummings, Helgeson, & Crawford, 2002; Lin & Tsai, 1999; Parks & Roberts, 1998). These factors may have led participants in this study to engage in cyberslacking in order to forge or maintain these social connections. In addition, Savci and Aysan (2017) found

that adolescents can experience withdrawal symptoms, such as anxiety, if they are away from their devices for too long, severing this social link. This previous research helps explain the findings in this study that illustrate participants' use of cyberslacking as a way to alleviate the anxiety from social separation.

Feelings toward and beliefs about the subject. In addition to anxiety, findings in this study show that students' in-class cyberslacking habits were also influenced by their feelings toward and beliefs about the subject matter of the course. One aspect of this motivation connected students' perceived knowledge and comfort level in a course to their decisions to cyberslack. Chatham (2015) found that when students feel that an activity is important to their success in a class, they are less likely to cyberslack. This was supported by the research in this study. While no data were collected regarding this specific motivation from the survey, participants discussed the idea at length during focus group interviews. For example, participants made comments about how they were less likely to cyberslack in a class in which they knew their success depended on paying attention. One student said, "I pay the most attention in Chemistry, 'cause — [shrugging] Chemistry." Another commented, "Math is not something I'm good at, so I gotta focus more." Other participants let their grades determine if they cyberslacked. One student said he cyberslacked less "when [he was] doing bad in a class, um, and [he] really need[ed] to focus." Conversely, students also tended to cyberslack if they believed their ability to use the skill being taught was already established, making their engagement with the lesson superfluous. For example, they noted that they often cyberslacked if they were "not actively doing anything" challenging, if "it's so easy," or if they feel they "can do [the assignment], like, without effort." It was apparent that students were selective

about the times in class in which they engaged in cyberslacking. They evaluated the topic at hand, determined if they believed it was important to their achievement in the class, and used that information to decide whether to cyberslack. The majority of students in focus group interviews agreed that when they felt the activity was valuable, they refrained from cyberslacking.

Participants also expressed an inclination to cyberslack when they found the subject matter too hard. Taneja et al. (2015) discovered that students who did not feel successful at comprehending the material in a course were more inclined to lose focus and cyberslack than students who felt successful. Furthermore, students who believe a lesson is too difficult often resort to cyberslacking because they give up (Aagaard, 2015). This was evident for the participants in this study, as well. Although there were no questions that directly anticipated this idea on the survey, evidence emerged for this motivation during focus group interviews. Students made comments like "when I start struggling …. I usually just pick up my phone." Participants said, "I would get so fed up because I didn't understand, … so whenever I got fed up, I just got on my phone," and "If I'm frustrated, I do it" (cyberslack). It was clear that students resorted to cyberslacking when the subject matter was too challenging. This relates back to their tendency to cyberslack if they did not feel the activity was important to their success. Students who became frustrated did not believe that paying attention to the lesson was important to their success because, from their points of view, focusing was not helping them understand. This led them to seek other forms of engagement, specifically cyberslacking.

Furthermore, lack of interest in a topic often affected participants' cyberslacking choices. Murphy and Drew (2015) found that how engaged students were in the lesson

contributed to how students used their technological devices; the less interested they were, the more cyberslacking occurred. Additionally, if a student displays indifference towards course material, he or she is more likely to cyberslack (Taneja et al., 2015). Twenty-four percent of respondents to the survey in this study selected "boredom" as a reason for cyberslacking in class that day. This motivation was also repeated frequently during focus group interviews. Students made comments such as "things started to get boring, so I started to go on my phone more" or "If I get bored … I might get on my phone." In fact, at some point in all three focus group interviews, *every* student directly mentioned, alluded to, or agreed with someone else who mentioned boredom.

Previous studies have demonstrated that boredom is one of the most frequently experienced feelings in the classroom (Mann & Robinson, 2009; Pekrun, Goetz, Daniels, Supnisky, & Perry, 2010; Pekrun, Goetz, Titz, & Perry, 2002). Keeping students engaged is not a new idea in education. However, according to Hill (2003), technology and hyperconnectivity through TV, computers, games, text messaging, and cell phones has created an impatient generation with a need for instant gratification, which can lead to impulsivity when not fulfilled. It seems that the constant influx of stimuli from various technological outlets has led to attention deficits and made it more difficult to attract and hold students' attention (Carstens, Doss, and Kies, 2018). This idea could explain students' need for distractions and why they turn to cyberslacking in situations in which they feel bored.

External motivators. In addition to factors originating from within students themselves, participants' cyberslacking habits were also affected by external motivators. These are influences from sources outside of students that could not be controlled by the

participants, such as elements regulated by their teachers or school. The two most noteworthy external motivators in this study were (a) the teacher and (b) access to devices.

The teacher. Cheong et al. (2016) found that the majority of teachers implement specific approaches to combat cyberslacking, including the institution of rules about technology use. Furthermore, educators typically diligently supervise students during the use of technology (Cheong et al., 2016; Tasgold, 2013) and impose consequences for unacceptable digital activities (Cheong et al., 2016; Hendry et al., 2016). At the school where this study took place, the district's technology policies were focused mostly on having good digital citizenship, caring properly for student devices, and following copyright laws. Teachers were required to enforce these guidelines in general, but these policies do not address cyberslacking in class; thus, teachers were allowed the flexibility to tailor these expectations to fit within their own classrooms and rules.

Teachers' rules and feelings regarding the use of technology was the most significant external motivator influencing the students' cyberslacking in this study. In my classroom, all technology was welcome, both school-issued and personal, but I expected students to use it for course-related activities only. Cyberslacking was not allowed, and students had been made aware of this rule from the first day of class. However, I did not micromanage students' use of technology, mostly leaving students the responsibility to follow the technology expectations on their own and giving them ownership of their own decisions regarding the use of their time. As described earlier, observations showed that more cyberslacking occurred when I was at the front or back of the room. A smaller percentage of cyberslacking events were noticed when I was more

likely to notice, such as when I was circulating. Students most likely were aware of the locations in the room where my visibility was reduced. Because they knew it was against the rules and I would disapprove, they chose to cyberslack more often when I was in the positions in which they could do so with less chance of detection.

In focus group interviews, students often mentioned their teachers' rules and disposition concerning cyberslacking as a factor that impacted their activities. Students frequently discussed how in some classes, their phones "can't even be in [their] pocket[s]" or have "to be put up." They said that they have "had teachers who have been so very strict about cell phones — like if they see it, they're gonna yell at [students] and embarrass [them] in front of the whole class." Some teachers even had a box or other location where students had to place their phone. Alternatively, they also had teachers who "kind of just let [them] use it whenever." As noted by Cheong et al. (2016), some teachers have no rules against and purposely overlook cyberslacking, allowing students the opportunity to regulate their own attention and learning. One student summed up the majority of students' thoughts on this topic when she said:

> I think it just kind of depends on the teacher … I guess, like, some teachers just kind of put it off on you. It's your education. Obviously you should know that you don't need a phone to get through your day, so if you decide to use it instead of doing your schoolwork, that's your choice. And if you come out, like, with a bad grade, or if you don't do something up to par, then that's your problem, because you decided to do something else.

Most other students agreed with this evaluation. Based on conversations in focus group interviews, students had teachers whose strictness was at one end or the other of the

spectrum in relation to cyberslacking. A teachers' classroom practices and rules regarding cyberslacking had a major influence on students' tendencies. If they were allowed to cyberslack unchecked, they did. If teachers were more controlling with their personal devices and technology use, students indicated that they did not cyberslack as much in those classes. Students in this study typically aimed to please their teachers and not get into trouble in class. Therefore, they adjusted their cyberslacking to the expectations of the teacher.

Access to devices. Students were also influenced by constant access to their devices, expressing that the availability of technology, both school-issued and personal, allowed easy paths to cyberslacking. As asserted by previous researchers, there are countless opportunities for off-task activities when they have access to technological devices during class (Harper & Milman, 2016; Preston et al., 2015). As a result, participants in this study took advantage of this provision. The topic of this motivation emerged during focus group interviews. They made comments that they used the technology for cyberslacking "just 'cause it's available" and because "I'm allowed to have my phone." They also noted that ubiquitous use of technology in class "definitely ... causes kids to, like, want to veer off and do other things than what they're assigned to do." According to participants, the school's 1:1 ratio of devices to students gave some participants "more motivation to [cyberslack] because there's more outlets, because it's not just [their] phone[s]." In addition, because many of their teachers "kind of just let [them] use [phones] whenever," they have frequent access to their personal mobile devices. The problem of being off-task is an issue facing high school students, and participants typically followed the easiest and most readily available path to

entertainment in these moments. Having access to various technological devices increased the students' tendency to fill their off-task activities with cyberslacking.

Research Question 4: What are students' perceptions of cyberslacking and its academic and social effects?

Throughout this study, it was apparent that participants held certain perceptions, both positive and negative, about the effects of cyberslacking. They considered the effects of cyberslacking as it pertained to themselves, their teachers, and other students. These impressions are organized into two specific sections: (1) perceived academic effects and (2) perceived social effects.

Perceived academic effects. Several previous research studies have found that general technology use in class has positive academic effects in areas such as differentiation (Çakiroğlu, 2014; Flower, 2014; Haelermans et al., 2015), collaboration (Andert & Alexakis, 2015; Davidson, 2015; Matthews & Johnson, 2017), and student agency (Ares et al., 2009). Findings in this study show that some students believe that cyberslacking also has a positive place in their academic performance. In surveys, 27% of respondents indicated that cyberslacking kept them from being overwhelmed with classwork. In addition, students who participated in focus group interviews showed a favorable view towards the use of cyberslacking for taking a "brain break." Students said if they "get frustrated or ... feel like [they] need a break," cyberslacking helped alleviate the stress and get them refocused so they could perform better on the arduous task. One student noted that "if you just try and spend a whole 80-minute period focusing and doing nothing but the work, it's so draining. Like, it is so exhausting." Qi, Gao, Meng, Thakor, Bezerianos, and Sun (2020) found that opportunities for mid-task breaks had a restorative

effect on the brain and reduced declines in performance due to time on task. Some students in this study utilized cyberslacking breaks for this purpose, and their perception was that it allowed them to focus better on the task for longer periods of time.

Although there was some evidence to illustrate a positive effect, several students in this study believed that cyberslacking had a negative effect on their academic lives. Survey and focus group interview data both showed that participants acknowledged this negative effect, albeit to different degrees. In surveys, a small percentage of respondents indicated that they believe cyberslacking negatively affects their concentration and attention (15%), completion of an assignment (7%), and quality of an assignment (6%). However, in focus group interviews, students' negative perceptions of cyberslacking and its effects on their academics was more pronounced. Students indicated that they noticed their grades decreased when they cyberslacked in the class. For example, one student said "in Chemistry, I cyberslacked a lot ... and then I made a C on my first test …. And then I realized … clearly what I'm doing is affecting my grades." Another student noticed that his grades from "earlier in the year" when he "didn't really cyberslack" were "kind of high grades," but in the following quarter, after he'd begun to "slack off" and "do less assignments" due to cyberslacking, he was making "Cs [and] Ds." In addition, another student acknowledged that she was "definitely, like, a straight A student that's making Bs" because she cyberslacked "on [her] phone too much." Participants came to the conclusion by the end of the discussion that when they "don't get on [their] phones, ... [they] get better grades." Students definitely saw a negative correlation between cyberslacking and the grades they made in their classes. These findings corroborate a multitude of prior research that shows the negative effects of cyberslacking on academic

achievement (Bellur et al., 2015; Duncan et al., 2012; Junco, 2012; Perry & Steck, 2015; Ravizza et al., 2014; Risko et al., 2013), and illustrates that the detrimental ramifications of cyberslacking may outweigh those positive benefits noted previously.

Even though there was evidence collected in this study to show both positive and negative effects of cyberslacking on academics, many students believed that cyberslacking had no effect at all on them academically. In surveys, 44% of respondents marked "cyberslacking did not have any negative effects for me" and 19% of respondents selected "cyberslacking did not have any positive effects for me." In addition, in focus group interviews participants made comments such as "it doesn't affect my grade" or "I don't think my grades are too affected." They believed that cyberslacking did not "have much of an effect" and stated that they "still always … get [their] work done, and ... have good grades." In addition, they noted that if they "maybe miss out on a chance to do an assignment, um, because [of] cyberslacking," they "just do it at home." Participants asserted that they could compensate for their cyberslacking through effective multitasking or extra work, and they did not acknowledge any effects on their grades at all.

This belief that cyberslacking has no academic effects may be linked to students' perceptions of their own multitasking abilities. Multitasking occurs when an individual splits his or her attention among various tasks, giving each partial attention (Chatham, 2015; Friedman, 2006) and can include being engaged with different media at the same time in class (Bellur et al., 2015). Participants (67%) in this study believed they were good at multitasking and were able to balance cyberslacking with their classwork with no negative effects. To them, cyberslacking was not a problem. In focus group interviews,

students said they have “figured out, like, how to balance both” schoolwork and cyberslacking. One student said, “I can multitask” and other students agreed that they believe they also have this skill. Several participants also concurred with one students’ statement: “I'm multitasking ’cause I'm also doing work.” These findings illustrate that students believe in their own ability to multitask between cyberslacking.

However, students’ beliefs about their effectiveness at multitasking is in discordance with the notion many participants shared regarding the negative effects of cyberslacking on their academic performance. Although findings from Portanova (2014) and Terry et al. (2016) showed that metacognitive awareness enhanced the ability to regulate multitasking, other studies have shown that higher levels of multitasking can lead to inferior accuracy and performance (Adler & Benbunan-Fich, 2012; Aral et al., 2011). It seems that participants in this study *thought* they were competently multitasking, but the self-reported negative correlation with grades showed the opposite. There is also evidence that adolescents are poor judges of their own tendencies. For example, Duncan et al. (2012) found that students have a tendency to underreport how often they engage in cyberslacking by about half, which illustrates the disconnect between their perceptions and reality.

Students in this study also exhibited proclivities toward confirmation bias, which “connotes the seeking or interpreting of evidence in ways that are partial to existing beliefs, expectations, or a hypothesis in hand” (Nickerson, 1998, p. 175) so that their beliefs about their multitasking were confirmed. Students believed they were good at multitasking; therefore, they ignored the evidence against this fact. This idea is also evident in the previously discussed notion that most participants in this study

acknowledged that technology addiction is a genuine and common issue for teenagers, even though they mostly refused to admit that their own behaviors and feelings constituted addiction. Participants in this study could possibly be overestimating their own abilities when it comes to multitasking and managing a balance between cyberslacking and classwork; however, they fail to recognize and/or admit this likelihood.

Perceived social effects. In addition to academic effects, there are also some social effects of cyberslacking. One such impact is how students' cyberslacking affects each other. Students are negatively affected by their peers' cyberslacking activities (Currie, 2015; Jackson, 2013; Sana et al., 2013; Taneja et al., 2015). In this study, students' opinions differed from those in the previous research. For example, in surveys, 43% of respondents indicated that other students' cyberslacking had no effect on them at all, and 21% of students noted that they did not even notice other students cyberslacking (although 88% of respondents had indicated that they had cyberslacked in each other's presence). Additionally, only 6% percent of survey respondents thought their personal cyberslacking decreased their classmates' perception of them as a student, and a mere 5% indicated that their personal opinions of students who cyberslack was negatively affected. Moreover, just 7% of respondents marked that their classmates' off-task tendencies encouraged them to cyberslack themselves. This shows very little belief in the impact cyberslacking could have from student to student.

In focus group interviews, the majority of participants agreed that the only time other students' cyberslacking affected them was during group collaboration. They said that if group members are "just on their phone[s] the whole time … instead of working" it

is “kind of annoying, because they're … making you pick up their slack.” This caused social discord within a group and among classmates. Furthermore, in focus group interviews, students commented that “unless, [they were] tapping [a classmate], like, ‘Hey look at this,’ … it shouldn't affect” their peers in any way. Students generally believed their cyberslacking did not impact others unless they intentionally invited their classmates into their activities. As previously noted, other research illustrated that students in the periphery of cyberslackers are affected, usually in a negative way (Currie, 2015; Jackson, 2013). Thus, it seems that the findings in this study speak to the students’ intent more than the actual effects.

In addition to the influence of student cyberslacking on classmates, findings regarding students’ perceptions of the effect of cyberslacking on their teachers’ personal feelings and impressions of students was also revealing. Although some previous research revealed that teachers think technology use in class has a positive influence on access to information (McRae, 2016; O’Bannon & Thomas, 2015; Strother, 2013) communication, inquiry-based learning, and differentiation (McRae, 2016), cyberslacking is also a notable issue for teachers when using technology (Cheong et al., 2016; McRae, 2016; O’Bannon & Thomas, 2015). Participants in this study were aware of the fact that cyberslacking is a concern of their teachers. Surveys showed that 84% of respondents believed student cyberslacking affected their teachers in some way. The highest percentages were associated with the teachers’ negative perceptions of cyberslackers (18%), feelings of having been disrespected (17%), and frustration (14%). In focus group interviews, students used words such as “disrespected,” “annoyed,” and “disappointing " to define what they believe to be their teachers’ feelings when they or

other students cyberslack. One student shared that her teacher had told the class that cyberslacking "hurt" her (the teacher). Other students put themselves into the teachers' positions, stating that if they were "teaching a class full of 20, 25 students and five to 10 of those students are on their phones, not paying attention. Like, that would aggravate" them. Students recognized that their teachers experienced negative effects as a result of their cyberslacking, and some students expressed remorse at having caused these consequences. They said they think it is "rude" to their teachers, and they "don't want [their] teachers to think [they are] disrespectful." Positive student-teacher relationships are something most students value (Fredriksen & Rhodes, 2004). Students in this study wanted their teachers to like them, and they avoided activities that might indicate disrespect towards their teachers. Because disregarding a teachers' feelings by cyberslacking could present a challenge in regard to building positive relationships with their teachers, participants often changed their behaviors if they knew their teachers disapproved.

Nevertheless, some students indicated that they believed teachers were either unaffected by cyberslacking or the effect depended on the student. Sixteen percent of survey respondents indicated that cyberslacking did not affect their teachers. In addition, 8% of students marked that they did not even think their teachers noticed if they were off-task on their devices. Participants in focus group interviews said that teachers were "starting to realize that, like, it's [the students'] learning — It's up to [the student] if [they] want to get on [their] phone and interfere with [their] learning. Like, that's [their] decision." Because their teachers gave them the flexibility to make their own decisions regarding cyberslacking, students assumed these teachers were unaffected by

cyberslacking. They also expressed that it may also depend on the student. One student said:

> Like, if you have a student that is, like, … getting … straight As — most teachers [are] gonna look past it. But if you've got a student … that's, like, failing — they always on their phone — then I guess the teacher thinks, like, his priority or her priorities aren't straight.

Many educators have chosen to encourage students to self-regulate their use of cell phones and to allow them to make their own decisions if they show responsibility in doing so (McKibben, 2016). Participants noted that some of their teachers employed this method, and they understood this to mean that these teachers were unaffected by cyberslacking because they put the responsibility on the student.

Recommendations for Mitigating Cyberslacking in a High School Classroom

The purpose of this action research was to describe students' understanding of cyberslacking and its academic and social effects in my English 3 Honors and Films Studies classes at Carraway High School in order to make recommendations about ways in which teachers and other stakeholders should approach technology use in the classroom. Findings in this study inspired several recommendations for mitigating cyberslacking in a high school classroom. Specifically, four groups of stakeholders are addressed in this section: (1) teachers, (2) students, (3) school and district, and (4) parents.

Recommendations for Teachers

Throughout this study, it was evident that teachers have an impact on students' cyberslacking habits. Although some teachers are unsure if students are indeed

negatively affected by cyberslacking (Cheong et al., 2016), most teachers agree that technology leads to distractions to their classrooms (Cheong et al., 2016; McRae, 2016; O'Bannon & Thomas, 2015). Therefore, it is necessary for teachers to find ways to monitor and regulate the use of this technology. Recommendations for teachers are presented here in regard to: (1) pedagogical strategies, (2) classroom culture, and (3) classroom technology policies and routines.

Pedagogical strategies. One opportunity for instructors to minimize cyberslacking is through their pedagogical strategies. For example, in this study, fewer students were off-task on their devices when I was circulating and active in the classroom. Teachers often believe that their classrooms are too large to properly monitor students' off-task behaviors, they are ineffective at noticing cyberslacking, or they do not have time to regulate students' behavior on their devices (Cheong et al., 2016). However, although I was not actively seeking out cyberslacking or micromanaging students' technology use, the mere fact of my presence and engagement with the students in general reduced cyberslacking. This was evident from the findings in observations that illustrated how cyberslacking decreased when I was moving around the classroom. In addition, the more engaged students are, the less they cyberslack (Aagaard, 2015; Barry et al., 2015; Chatham, 2015; Jones, 2016; Olufadi, 2015; Taneja et al., 2015). Participants in this study confirmed that a major reason they cyberslack is because of boredom. Furthermore, research shows that students cyberslack more if they feel a lesson or activity is unnecessary to their success in the class (Chatham, 2015). Participants in this study also indicated that when they lose interest or do not see the value in a lesson, they find it difficult to remain on task. Consequently, strategically

providing lessons and activities that are engaging, meaningful, personalized may be effective solutions to combat cyberslacking in class.

Furthermore, it is important for educators to consider the cognitive load their class materials and manner of instruction place on students. Sweller, van Merrienboer, and Paas (1998) asserted that the human brain can only handle so much at once in working memory, which is the part of the brain that is actively thinking and learning. According to their research, working memory can be taxed both by the intrinsic nature of challenging material (intrinsic cognitive load) and by the manner in which it is presented and activities students are required to complete (extraneous cognitive load). Sweller and Chandler (1994) claim that poorly designed lessons add extraneous cognitive load. Their findings suggest that instruction that is disorganized or includes various items (e.g., pieces of text or diagrams) to interpret at once, especially when paired with intrinsically challenging material, increases extraneous cognitive load. When this happens, students' working memory capacity may be exceeded, at which point they may become frustrated and give up. This may lead to increased cyberslacking in class. Research by Aagaard (2015) and Taneja et al. (2015) suggests that students engage in more cyberslacking if they are frustrated by the difficulty of a lesson. Similarly, participants in this study identified frustration as a motivation to cyberslack. Therefore, because intrinsic cognitive load cannot be altered, it is important that teachers implement pedagogical strategies that aim to reduce extraneous cognitive load.

Classroom culture. Teachers can also positively influence students' tendencies to cyberslack by creating a culture of respect, responsibility, and learning in their classrooms. Positive student-teacher relationships are valuable to students (Fredriksen &

Rhodes, 2004), and participants in the current study indicated that they took steps to curb their cyberslacking in order to prevent negating a teacher's positive view of them and to avoid exhibiting disrespect towards their teacher. By cultivating positive bonds with students, teachers can instill a respectful climate in which students want to achieve and in which negative behaviors, including cyberslacking, are naturally discouraged. In addition, Portanova (2014) and Terry et al. (2016) found that metacognitive awareness augmented students' ability to govern multitasking. Many students in this study indicated that their cognizance of how cyberslacking affected their learning enabled them to develop techniques by which they monitored their own off-task behaviors (e.g., using Do Not Disturb or airplane mode features or placing their device out of reach). By establishing the practice of student self-reflection and self-assessment of attention, learning processes, and achievement, teachers can help students learn to regulate their own cyberslacking trends and encourage students to take responsibility for their own practices. Moreover, Qi et al. (2020) revealed that taking mid-task breaks had a renewing effect on the brain and minimized negative effects on performance attributed to time on task. Therefore, by incorporating approved brain breaks as part of the learning culture in their classes, teachers can provide acceptable options for students to rejuvenate their focus on learning.

Classroom technology policies and routines. Furthermore, implementing an explicit policy for how students use their devices in class and establishing a routine for monitoring such use are also possible methods for preventing cyberslacking. Most educators specify guidelines regarding technology use in their classrooms to their students (Cheong et al., 2016), and Jackson (2013) revealed that students felt that

purposefully discussing the subject of cyberslacking makes students more aware of the issue and open to behavior changes in order to follow teachers' rules. Findings in this study also suggest that policies implemented by teachers specifically to reduce cyberslacking were successful in many cases. Enforcing and openly discussing specific rules and consequences regarding cyberslacking and providing areas for students to store smartphones out of reach (such as lockboxes or charging stations) may be effective for decreasing cyberslacking. In addition, some researchers have found that surveilling digital activities through the use of computer programs and assigning consequences for students who are determined to be off-task are frequently effective at curtailing cyberslacking (Glassman et al., 2015; Ugrin & Pearson, 2013). Participants in this study reported that knowing their teachers may be viewing their screen limited their cyberslacking activities on school-issued devices. Making it a routine practice to use applications, such as Apple Classroom, to monitor school-issued devices is another effective way for teachers to reduce the instances of cyberslacking in class.

Recommendations for Students

Students can also make a difference in the extent to which cyberslacking affects their learning. Although a majority of students may be annoyed by rigid bans on technology, most students admit that they recognize cell phones as distractions in class (Jackson, 2013). In addition, Strom et al. (2016) reported that students felt they had developed dysfunctional uses of technology, and this distracted from their learning. Therefore, based on their own admissions, it seems to be critical that students take initiative to manage their own behaviors in relation to technology. Practicing metacognition, such as monitoring one's abilities and formulating plans to heighten

performance (Dunlosky & Thiede, 1998), is a method students can employ to mitigate their proclivities towards cyberslacking. This exercise can increase adolescents' ability to manage multitasking (Portanova, 2014; Terry et al., 2016), which could reduce the negative effects of cyberslacking. Participants in this study indicated that self-analysis of their achievement, multitasking ability, and attention made them more aware of and more likely to address their own cyberslacking. Cultivating one's own self-regulation — the ability to adapt behaviors in response to dynamic environmental circumstances for the purpose of accomplishing one's goals (Kaur et al., 2018) — is important for students to be successful at minimizing their cyberslacking activities. Findings in this study illustrate that students regulated their own behaviors in a variety of ways, including reducing temptations through the use of Do Not Disturb feature or airplane mode on their devices, distancing themselves physically from their devices by placing them across the room to charge or in a teacher's lockbox, or through acknowledging their problem and monitoring their own use of technology. In order to take ownership of their learning and reduce their inclinations towards cyberslacking, students may choose to employ tactics such as these.

Recommendations for School and District

There are also opportunities for the school and school district to offer support for mitigating cyberslacking in class. Although teachers and students may have the most direct connection with cyberslacking, the support of the school and district is an important element in maintaining a positive experience with technology. Based on findings in this study, four recommendations are proposed for the school and district: (1)

professional learning for teachers, (2) stress and anxiety management for students, and (3) technology monitoring software.

Professional learning for teachers. Previous research has shown that teachers do not feel they have adequate technology literacy (Ashrafzadeh & Sayadian, 2015) and experience (Strother, 2013) to effectively use technology in their classrooms. Teachers also indicate they are lacking in explicit strategies for overcoming the problem of cyberslacking (Andersson et al., 2014; Cheong et al., 2016). In this study, participants shared their perceptions of the frustration their teachers seemed to feel or had expressed to them, and these frustrations may be attributable to a lack of training regarding technology integration and management. Therefore, it may be beneficial for the school or district to offer professional learning opportunities for teachers specifically designed to address the issues of managing student technology use and reducing instances of cyberslacking in their classrooms.

In addition, participants in this study expressed concern over long class periods and being required to focus on arduous tasks for an entire 83-minute block. Their tendency to cyberslack was increased due to long classes and short attention spans. Previous research shows that in general, students feel that their attention span and ability to concentrate are liabilities in block scheduling (Kaya & Aksu, 2016). However, the literature suggests that when used effectively by the teacher, block scheduling may be linked to better academic performance (Deuel, 1999; Eineder & Bishop, 1997; Trenta & Newman, 2002) and more effective meeting of graduation requirements (Deuel, 1999) in high school students. However, longer class periods necessitate a variety of rich teaching strategies (Jenkins, Queen, & Algozzine, 2002) to keep students engaged and to reduce

the stress of long periods of time on task. Therefore, it is crucial for educational leaders in the school and district to offer professional learning opportunities for teachers focused on effective strategies for teaching in the block schedule (Deuel, 1999; Jenkins et al., 2002; Marchant & Paulson, 2001).

Stress and anxiety management for students. Stress and anxiety are common among adolescents (Sharma & Choulagai, 2018), and students frequently experience these feelings in connection to cyberslacking (Taneja et al., 2015) and access — or lack thereof — to technology (Gurbuz & Ozkan, 2020; King et al., 2014; Wang et al. 2014). Furthermore, Feiss et al. (2019) found that targeted stress and anxiety interventions in schools are effective at helping students manage these emotions and their effects. This study's findings illustrate that students were negatively impacted by the effects of anxiety and stress related to digital technology. Facilitating school-based learning opportunities, programs, support groups, or counseling for students that target anxiety and stress could be a step towards helping alleviate this impediment in students' lives.

Technology monitoring software. A final recommendation for the school and district is to provide real-time, digital methods for teachers to monitor their students' use of technology on school-issued devices, such as Apple Classroom. Research shows that supervising digital activities through the use of computer programs and enacting consequences for students who are off-task are effective at mitigating cyberslacking (Glassman et al., 2015; Ugrin & Pearson, 2013). Participants in this study expressed that knowing their teacher was able to track their activities on school-issued devices in real time was a deterrent to cyberslacking on those devices. Therefore, it is an asset in the

classroom for the school and district to establish these tools as options for teachers to manage cyberslacking in their classes.

Recommendations for Parents

Previous research shows that parental involvement in students' lives has a positive effect on academic achievement (Balsa, Gandelman, & Roldan, 2018; Fan & Williams, 2010; Hong, Yoo, You, & Wu, 2010; Lam & Ducreux, 2013). Specifically, when parents place boundaries on their children's technology use in a manner that is firm and supportive of a positive relationship with technology, it results in less addictive behaviors related to technology (Shek, Zhu, & Ma, 2018). In this study, students whose parents monitored their use of personal devices throughout the school day indicated that their parents' feelings about cyberslacking and expectations played a role in reducing their tendency to cyberslack. Given these data, it stands to reason that it would be beneficial for parents to be aware of their children's screen-time and technology habits, to work towards cultivating a positive relationship with technology, and to lead their children in establishing good technology habits. Instilling an awareness of the detrimental effects of technology dependence and cyberslacking at home may have a favorable effect on students' technology use in class and help counteract the problem of cyberslacking.

Implications

Because technology is fully embedded in education, as well as the personal lives of students, this study has significant implications. Specifically, two categories of implications are presented: (1) personal implications and (2) implications for future research.

Personal Implications

Through conducting this action research, I have gained several valuable insights into my personal role in the field of education. Reflecting on these lessons has allowed me to grow as a practitioner and have provided the impetus for improving my practice. The topics under consideration for this section are: (1) changed perceptions about my students and (2) changes to my teaching methods.

Changed perceptions about my students. One benefit of action research is that it encourages teachers to become more engaged on an intellectual level in what is happening in their own classrooms and with their students (Mertler, 2017). Immersing myself into this study and working closely with my students opened my eyes to a deeper knowledge of who they are as people. This research put me in the position of an "insider in collaboration with other insiders" (Herr & Anderson, 2005, p. 31), and my prolonged time in the field with my students allowed me to nurture an in-depth understanding (Creswell, 2014) of their cyberslacking habits, motivations, and perceptions. I came to realize that not only did my students cyberslack more than I had previously thought, they did so for reasons that were much different than my original presumptions. It was surprising to discover their behaviors were more a result of addictive and habitual tendencies than it was about their indifference to or defiance of the rules.

In addition, I learned that the students were very perceptive of their teachers' feelings and sensitive to hurting, disrespecting, or frustrating their instructors. They cared about their teachers just as much as I cared about them as my students. Friedriksen and Rhodes (2004) claimed that students seek out positive relationships with their teachers, and this was corroborated by this study. Going forward, this knowledge about

my students will allow me to acknowledge them on a more personal level and will provide a more compassionate point of view from which to address issues in my classes, including cyberslacking. Furthermore, building a deeper kinship and stronger rapport with all of my students will be a priority. Seeing them as people, rather than just students, and having an understanding of their personal challenges, motivations, and goals will help me to personalize their learning and lead them to grow as individuals. This, in turn, will provide a more meaningful and engaging educational experience for my students.

Changes to my teaching methods. Mertler (2017) asserts that the purpose of action research for teachers is to gather information about students and learning environments to make informed decisions and improve their practice. I will use the findings of this research study, as well as the information gleaned from the comprehensive review of literature I conducted, to inform decision-making in my classroom. The following are intended areas of improvement to my practice: (1) technology practices and policies and (2) lesson structures.

Technology practices and policies. Jackson (2013) found that students felt that explicitly discussing the topic of cyberslacking makes students more cognizant of the issue and receptive to behavior changes. Therefore, I will begin each semester by openly discussing cyberslacking with my new students and sharing research that illustrates the negative effects of the habit. In addition, I have always been a proponent of encouraging young adults to take ownership of their learning, and I have previously allowed them to monitor their own cyberslacking behaviors. However, participants in this study tended to overestimate their own abilities to multitask effectively. Increased levels of multitasking

can be detrimental to accuracy and performance (Adler & Benbunan-Fich, 2012; Aral et al., 2011), and students in this study expressed their experience with these negative consequences as a result of cyberslacking. Moreover, participants reported that when their teachers did not allow them free reign of their personal devices or when they placed their devices out of reach, they were less likely to cyberslack in class. Therefore, I will provide a charging station with slots for cell phones, and students will be required to place their phones in this area for the entire class period. Participants in this study indicated that their smartphones are the most significant source of cyberslacking distractions, and removing this device from the immediate vicinity will eliminate the number one cyberslacking temptation.

***Lesson structures*.** Although students will not have access to their smartphones in my classes going forward, our school district has a 1:1 ratio of devices to students. Beginning the year after this study was conducted, each student in my classes will have a school-issued Apple MacBook Air. Additionally, my classes incorporate blended learning and are paperless, and students use their school devices for almost every lesson and activity. Ragan et al. (2014) reported that students who were using laptops were off-task about two-thirds of the class period. Furthermore, research shows that inadequately designed lessons or those that are not engaging to students can lead to boredom and encourage cyberslacking behaviors (Aagaard, 2015; Barry et al., 2015; Chatham, 2015; Jones, 2016; Olufadi, 2015; Taneja et al., 2015). Because my classes fully integrate technology, there is a marked opportunity for cyberslacking if students are not engaged. Since conducting this research, I have become more active in searching out engaging

ways to use technology in my classes. Moving forward, I will make engaging activities that effectively use technology a priority in planning my lessons.

In addition to offering engaging lessons, another change to my lesson structures will be the incorporation of planned brain breaks. Qi et al. (2020) found that taking mid-task breaks had a restorative effect on the brain and reduced the negative effects in performance due to time on task. Furthermore, participants in this study expressed how exhausting, stressful, and anxiety-inducing it is for them to focus on a task for a long period of time. Frequently, this tediousness leads to cyberslacking, and, if left uncontrolled, these bouts of off-task behavior tend to get out of hand, lasting much longer than students intended. The classes I teach are 83 minutes, as our school is on block scheduling. Therefore, it may be beneficial to institute short brain breaks throughout the class period, to give students structured, time-controlled moments to rest, rejuvenate, and refocus their attention on the task at hand. Doing so will offer a healthy way for students to manage arduous tasks and combat the problem of random and incessant cyberslacking.

Implications for Future Research

The findings of this study suggest several implications for future research. These include: (1) evaluation of interventions for mitigating cyberslacking in the classroom, (2) teachers' perceptions of cyberslacking, (3) comparison of students' perceptions of versus actual effects on academic achievement, and (4) longitudinal study of cyberslacking habits.

Evaluation of interventions for mitigating cyberslacking in the classroom. Most instructors utilize specific interventions to mitigate cyberslacking in class, such as establishing specific rules (Cheong et al., 2016), vigilantly supervising students' use of

technology (Cheong et al., 2016; Tasgold, 2013), and implementing consequences for unacceptable use of technology (Cheong et al., 2016; Hendry et al., 2016). In addition, it has been suggested that offering engaging lessons may be an intervention to keep students from cyberslacking in class (Aagaard, 2015; Barry et al., 2015; Chatham, 2015; Jones, 2016; Olufadi, 2015; Taneja et al., 2015). Further research could be conducted to determine the efficacy of one or more of these methods. Students in this study shared their experiences with teachers who had employed these tactics and expressed how their cyberslacking habits were affected as a result. However, this study did not collect specific data that could support the effectiveness of any one method or make a comparison to determine which method was most effective. Therefore, it would be beneficial for future research to explore these topics.

Teachers' perceptions of cyberslacking. The purpose of this study was to describe students' cyberslacking habits, motivations, and perceptions about the effects of cyberslacking at Carraway High School. Although no teachers were included in the study, student participants shared their beliefs regarding their teachers' feelings about cyberslacking and how they interpreted the effects of cyberslacking on their teachers. Previous research has shown that some teachers are unsure of the negative effects of cyberslacking on students (Cheong et al., 2016), although they mostly agree that cyberslacking is distracting (Cheong et al., 2016; McRae, 2016; O'Bannon & Thomas, 2015). Additionally, research indicates that some teachers struggle with managing cyberslacking in their classrooms (Cheong et al., 2016; Thomas et al., 2014). Further research could be conducted to determine the perceptions of teachers at Carraway High

School, whether they corroborate previous research, and how they compare with the students' perceptions indicated in the current study.

Comparison of students' perceptions of versus actual effects on academic achievement. According to most research, cyberslacking has a negative effect on students' academic achievement (Bellur et al., 2015; Duncan et al., 2012; Junco, 2012; Perry & Steck, 2015; Ravizza et al., 2014; Risko et al., 2013). This study collected data regarding students' beliefs about how their academic success was affected by cyberslacking, but no data were examined illustrating students actual grades. Some participants indicated that their grades were negatively affected, while others insisted that cyberslacking had no academic effects on them at all. It would be of interest to continue this research cycle by comparing students' perceptions about the effects of cyberslacking with their actual performance in class.

Longitudinal study. In the literature regarding cyberslacking, scant research was found that examines how individual students' cyberslacking habits, motivations, and perceptions change over time. Gurbuz and Ozkan (2020) compared the anxiety of young people related to their ages, and several studies (e.g., Akbulut et al., 2017; Baturay & Toker, 2015; Judd & Kennedy, 2011; Yılmaz et al., 2015) have been conducted to determine how age and maturity affect multitasking ability. However, none of these studies followed the same group of participants over the course of an extended period of time, nor did they relate to the students' beliefs specifically regarding cyberslacking. Future research might focus on collecting this data. It may be valuable to conduct surveys and focus group interviews with the same participants yearly from elementary school through high school in order to record the changing perceptions of students as they

progress through adolescence. This could give more insight into how age, maturity, and experiences affect a students' cyberslacking habits, motivations, and perceptions.

Limitations

All research has limitations, and there are several which should be noted regarding this study. The limitations are discussed in two specific categories: (1) methodological limitations and (2) limitations associated with findings.

Methodological Limitations

There are a few methodological limitations inherent in this action research. First of all, as with all action research, the results are not generalizable to a larger population. Findings in action research are context specific and singular to the participants, setting, and situation in that context (Mertler, 2016). In addition, the small sample size for this study limits the research, as larger sample sizes provide more confidence in a study's findings (Fraenkel et al., 2015). Furthermore, a convenience sample was used as the population for this study. As a teacher, the most convenient group of participants is made up of one's own students. Purposive sampling was also employed to create focus groups for interviews. However, both convenience and purposive sampling may be biased with regards to errors in the researcher's judgement and may not be considered representative of any population (Fraenkel et al., 2015). The brevity of the study was also a limitation, in that it lasted only 13 weeks. A longer study would have provided more data and reliability in the findings. Finally, I was both researcher and instructor in this study, which may have resulted in bias. An attempt to minimize researcher bias was made through keeping a researcher journal, cultivating an audit trail, and by having a third-party conduct observations.

Limitations Associated with Findings

This study is also limited by certain elements regarding the findings. The data collected from surveys and focus group interviews were self-reported, and, as noted previously, students may not always report information accurately (Duncan et al., 2012). This limitation was minimized through triangulation among surveys, observations, and interviews to provide stronger, more reliable data. In addition, observations may have been limited by the Hawthorne effect (French, 1953) in which subjects alter their behavior when they know they are being observed. Furthermore, the observer effect is a possible limitation to this study, as the simple presence of an observer who is not a member of the daily class could have an effect on those being observed. Because students were aware of the study from the beginning, they knew what the observer was looking for. This may have influenced their behavior (Fraenkel et al., 2015). Additionally, some observations took place prior to student surveys, albeit on different days. As a result, some students' survey responses could have been affected by their heightened awareness of cyberslacking due to having been previously observed for cyberslacking behaviors. Moreover, there was only one observer, observational data could show the biases of this observer, and certain characteristics of the observer could bias what she noticed during observations (Fraenkel et al., 2015). Attempts to minimize these issues included visits by the observer before observations began, practice observations, and the incorporation of the observer into class in ways other than observations. Finally, the observer used two methods of observation at once, both direct observation and digital observation through Apple Classroom. Monitoring

cyberslacking behavior in two ways at the same time may have introduced a situation in which the observer may have missed some cyberslacking events.

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APPENDIX A

OBSERVATION PROTOCOL

Date: _____ Observer Name: _____

Class Observed: _____ Block Observed: _____ Time of observation: _____

Instructions: Each block below is a 3-minute window of time, during which you will mark each cyberslacking activity that is observed during those 3 minutes. If you observe the same activity more than once, make more than one mark. Observe both the students physically in your view, as well as the iPad screens on Apple Classroom. Change to a new location to observe new students every 9 minutes. Write any notes you feel necessary in margins or on the back of the page.

Location 1

Time	Cyberslacking activities	Devices Used	Observation Method	~ Duration of occurrences
	☐☐☐☐☐ Gaming ☐☐☐☐☐ Facebook ☐☐☐☐☐ Twitter ☐☐☐☐☐ Snapchat ☐☐☐☐☐ Instagram ☐☐☐☐☐ Texting ☐☐☐☐☐ Surfing internet ☐☐☐☐☐ Video chatting ☐☐☐☐☐ Taking pictures ☐☐☐☐☐ Email ☐☐☐☐☐ Watching videos ☐☐☐☐☐ Other _____	☐ iPad ☐ Cell phone ☐ computer ☐ smart watch ☐ other _____	☐ Direct observation ☐ Apple Classroom	☐ <1 min. ☐ 1-2 min. ☐ 2-3 min. ☐ > 3 min. *Average of all occurrences together.

Location of Teacher: ☐ front of room ☐ teacher desk ☐ at student tables ☐ at conference table ☐ Other _____ ☐ circulating

Class activity: ☐ whole class ☐ small group ☐ individual ☐ technology required ☐ technology not required

Time	Cyberslacking activities	Devices Used	Observation Method	~ Duration of occurrences
	☐☐☐☐☐ Gaming ☐☐☐☐☐ Facebook ☐☐☐☐☐ Twitter ☐☐☐☐☐ Snapchat ☐☐☐☐☐ Instagram ☐☐☐☐☐ Texting ☐☐☐☐☐ Surfing internet ☐☐☐☐☐ Video chatting ☐☐☐☐☐ Taking pictures ☐☐☐☐☐ Email ☐☐☐☐☐ Watching videos ☐☐☐☐☐ Other _____	☐ iPad ☐ Cell phone ☐ computer ☐ smart watch ☐ other _____	☐ Direct observation ☐ Apple Classroom	☐ <1 min. ☐ 1-2 min. ☐ 2-3 min. ☐ > 3 min. *Average of all occurrences together.

Location of Teacher: ☐ front of room ☐ teacher desk ☐ at student tables ☐ at conference table ☐ Other _____ ☐ circulating

Class activity: ☐ whole class ☐ small group ☐ individual ☐ technology required ☐ technology not required

Time	Cyberslacking activities	Devices Used	Observation Method	~ Duration of occurrences
	☐☐☐☐☐ Gaming ☐☐☐☐☐ Facebook ☐☐☐☐☐ Twitter ☐☐☐☐☐ Snapchat ☐☐☐☐☐ Instagram ☐☐☐☐☐ Texting ☐☐☐☐☐ Surfing internet ☐☐☐☐☐ Video chatting ☐☐☐☐☐ Taking pictures ☐☐☐☐☐ Email ☐☐☐☐☐ Watching videos ☐☐☐☐☐ Other _____	☐ iPad ☐ Cell phone ☐ computer ☐ smart watch ☐ other _____	☐ Direct observation ☐ Apple Classroom	☐ <1 min. ☐ 1-2 min. ☐ 2-3 min. ☐ > 3 min. *Average of all occurrences together.

Location of Teacher: ☐ front of room ☐ teacher desk ☐ at student tables ☐ at conference table ☐ Other _____ ☐ circulating

Class activity: ☐ whole class ☐ small group ☐ individual ☐ technology required ☐ technology not required

Location 2

Time	Cyberslacking activities	Devices Used	Observation Method	~ Duration of occurrences
	☐☐☐☐☐ Gaming ☐☐☐☐☐ Facebook ☐☐☐☐☐ Twitter ☐☐☐☐☐ Snapchat ☐☐☐☐☐ Instagram ☐☐☐☐☐ Texting ☐☐☐☐☐ Surfing internet ☐☐☐☐☐ Video chatting ☐☐☐☐☐ Taking pictures ☐☐☐☐☐ Email ☐☐☐☐☐ Watching videos ☐☐☐☐☐ Other _____	☐ iPad ☐ Cell phone ☐ computer ☐ smart watch ☐ other _____	☐ Direct observation ☐ Apple Classroom	☐ <1 min. ☐ 1-2 min. ☐ 2-3 min. ☐ > 3 min. *Average of all occurrences together.

Location of Teacher: ☐ front of room ☐ teacher desk ☐ at student tables ☐ at conference table ☐ Other _____ ☐ circulating

Class activity: ☐ whole class ☐ small group ☐ individual ☐ technology required ☐ technology not required

Time	Cyberslacking activities	Devices Used	Observation Method	~ Duration of occurrences
	☐☐☐☐☐ Gaming ☐☐☐☐☐ Facebook ☐☐☐☐☐ Twitter ☐☐☐☐☐ Snapchat ☐☐☐☐☐ Instagram ☐☐☐☐☐ Texting ☐☐☐☐☐ Surfing internet ☐☐☐☐☐ Video chatting ☐☐☐☐☐ Taking pictures ☐☐☐☐☐ Email ☐☐☐☐☐ Watching videos ☐☐☐☐☐ Other _____	☐ iPad ☐ Cell phone ☐ computer ☐ smart watch ☐ other _____	☐ Direct observation ☐ Apple Classroom	☐ <1 min. ☐ 1-2 min. ☐ 2-3 min. ☐ > 3 min. *Average of all occurrences together.

Location of Teacher: ☐ front of room ☐ teacher desk ☐ at student tables ☐ at conference table ☐ Other _____ ☐ circulating

Class activity: ☐ whole class ☐ small group ☐ individual ☐ technology required ☐ technology not required

Time	Cyberslacking activities	Devices Used	Observation Method	~ Duration of occurrences
	☐☐☐☐☐ Gaming ☐☐☐☐☐ Facebook ☐☐☐☐☐ Twitter ☐☐☐☐☐ Snapchat ☐☐☐☐☐ Instagram ☐☐☐☐☐ Texting ☐☐☐☐☐ Surfing internet ☐☐☐☐☐ Video chatting ☐☐☐☐☐ Taking pictures ☐☐☐☐☐ Email ☐☐☐☐☐ Watching videos ☐☐☐☐☐ Other _____	☐ iPad ☐ Cell phone ☐ computer ☐ smart watch ☐ other _____	☐ Direct observation ☐ Apple Classroom	☐ <1 min. ☐ 1-2 min. ☐ 2-3 min. ☐ > 3 min. *Average of all occurrences together.

Location of Teacher: ☐ front of room ☐ teacher desk ☐ at student tables ☐ at conference table ☐ Other _____ ☐ circulating

Class activity: ☐ whole class ☐ small group ☐ individual ☐ technology required ☐ technology not required

Location 3

Time	Cyberslacking activities	Devices Used	Observation Method	~ Duration of occurrences
	☐☐☐☐☐ Gaming ☐☐☐☐☐ Facebook ☐☐☐☐☐ Twitter ☐☐☐☐☐ Snapchat ☐☐☐☐☐ Instagram ☐☐☐☐☐ Texting ☐☐☐☐☐ Surfing internet ☐☐☐☐☐ Video chatting ☐☐☐☐☐ Taking pictures ☐☐☐☐☐ Email ☐☐☐☐☐ Watching videos ☐☐☐☐☐ Other _____	☐ iPad ☐ Cell phone ☐ computer ☐ smart watch ☐ other _____	☐ Direct observation ☐ Apple Classroom	☐ <1 min. ☐ 1-2 min. ☐ 2-3 min. ☐ > 3 min. *Average of all occurrences together.

Location of Teacher: ☐ front of room ☐ teacher desk ☐ at student tables ☐ at conference table ☐ Other _____ ☐ circulating

Class activity: ☐ whole class ☐ small group ☐ individual ☐ technology required ☐ technology not required

Time	Cyberslacking activities	Devices Used	Observation Method	~ Duration of occurrences
	☐☐☐☐☐ Gaming ☐☐☐☐☐ Facebook ☐☐☐☐☐ Twitter ☐☐☐☐☐ Snapchat ☐☐☐☐☐ Instagram ☐☐☐☐☐ Texting ☐☐☐☐☐ Surfing internet ☐☐☐☐☐ Video chatting ☐☐☐☐☐ Taking pictures ☐☐☐☐☐ Email ☐☐☐☐☐ Watching videos ☐☐☐☐☐ Other _____	☐ iPad ☐ Cell phone ☐ computer ☐ smart watch ☐ other _____	☐ Direct observation ☐ Apple Classroom	☐ <1 min. ☐ 1-2 min. ☐ 2-3 min. ☐ > 3 min. *Average of all occurrences together.

Location of Teacher: ☐ front of room ☐ teacher desk ☐ at student tables ☐ at conference table ☐ Other _____ ☐ circulating

Class activity: ☐ whole class ☐ small group ☐ individual ☐ technology required ☐ technology not required

Time	Cyberslacking activities	Devices Used	Observation Method	~ Duration of occurrences
	☐☐☐☐☐ Gaming ☐☐☐☐☐ Facebook ☐☐☐☐☐ Twitter ☐☐☐☐☐ Snapchat ☐☐☐☐☐ Instagram ☐☐☐☐☐ Texting ☐☐☐☐☐ Surfing internet ☐☐☐☐☐ Video chatting ☐☐☐☐☐ Taking pictures ☐☐☐☐☐ Email ☐☐☐☐☐ Watching videos ☐☐☐☐☐ Other _____	☐ iPad ☐ Cell phone ☐ computer ☐ smart watch ☐ other _____	☐ Direct observation ☐ Apple Classroom	☐ <1 min. ☐ 1-2 min. ☐ 2-3 min. ☐ > 3 min. *Average of all occurrences together.

Location of Teacher: ☐ front of room ☐ teacher desk ☐ at student tables ☐ at conference table ☐ Other _____ ☐ circulating

Class activity: ☐ whole class ☐ small group ☐ individual ☐ technology required ☐ technology not required

Location 4

Time	Cyberslacking activities	Devices Used	Observation Method	~ Duration of occurrences
	☐☐☐☐☐ Gaming ☐☐☐☐☐ Facebook ☐☐☐☐☐ Twitter ☐☐☐☐☐ Snapchat ☐☐☐☐☐ Instagram ☐☐☐☐☐ Texting ☐☐☐☐☐ Surfing internet ☐☐☐☐☐ Video chatting ☐☐☐☐☐ Taking pictures ☐☐☐☐☐ Email ☐☐☐☐☐ Watching videos ☐☐☐☐☐ Other _____	☐ iPad ☐ Cell phone ☐ computer ☐ smart watch ☐ other _____	☐ Direct observation ☐ Apple Classroom	☐ <1 min. ☐ 1-2 min. ☐ 2-3 min. ☐ > 3 min. *Average of all occurrences together.

Location of Teacher: ☐ front of room ☐ teacher desk ☐ at student tables ☐ at conference table ☐ Other _____ ☐ circulating

Class activity: ☐ whole class ☐ small group ☐ individual ☐ technology required ☐ technology not required

Time	Cyberslacking activities	Devices Used	Observation Method	~ Duration of occurrences
	☐☐☐☐☐ Gaming ☐☐☐☐☐ Facebook ☐☐☐☐☐ Twitter ☐☐☐☐☐ Snapchat ☐☐☐☐☐ Instagram ☐☐☐☐☐ Texting ☐☐☐☐☐ Surfing internet ☐☐☐☐☐ Video chatting ☐☐☐☐☐ Taking pictures ☐☐☐☐☐ Email ☐☐☐☐☐ Watching videos ☐☐☐☐☐ Other _____	☐ iPad ☐ Cell phone ☐ computer ☐ smart watch ☐ other _____	☐ Direct observation ☐ Apple Classroom	☐ <1 min. ☐ 1-2 min. ☐ 2-3 min. ☐ > 3 min. *Average of all occurrences together.

Location of Teacher: ☐ front of room ☐ teacher desk ☐ at student tables ☐ at conference table ☐ Other _____ ☐ circulating

Class activity: ☐ whole class ☐ small group ☐ individual ☐ technology required ☐ technology not required

Time	Cyberslacking activities	Devices Used	Observation Method	~ Duration of occurrences
	☐☐☐☐☐ Gaming ☐☐☐☐☐ Facebook ☐☐☐☐☐ Twitter ☐☐☐☐☐ Snapchat ☐☐☐☐☐ Instagram ☐☐☐☐☐ Texting ☐☐☐☐☐ Surfing internet ☐☐☐☐☐ Video chatting ☐☐☐☐☐ Taking pictures ☐☐☐☐☐ Email ☐☐☐☐☐ Watching videos ☐☐☐☐☐ Other _____	☐ iPad ☐ Cell phone ☐ computer ☐ smart watch ☐ other _____	☐ Direct observation ☐ Apple Classroom	☐ <1 min. ☐ 1-2 min. ☐ 2-3 min. ☐ > 3 min. *Average of all occurrences together.

Location of Teacher: ☐ front of room ☐ teacher desk ☐ at student tables ☐ at conference table ☐ Other _____ ☐ circulating

Class activity: ☐ whole class ☐ small group ☐ individual ☐ technology required ☐ technology not required

Location 5

Time	Cyberslacking activities		Devices Used	Observation Method	~ Duration of occurrences
	☐☐☐☐☐ Gaming	☐☐☐☐☐ Facebook	☐ iPad	☐ Direct observation	☐ <1 min.
	☐☐☐☐☐ Twitter	☐☐☐☐☐ Snapchat	☐ Cell phone	☐ Apple Classroom	☐ 1-2 min.
	☐☐☐☐☐ Instagram	☐☐☐☐☐ Texting	☐ computer		☐ 2-3 min.
	☐☐☐☐☐ Surfing internet	☐☐☐☐☐ Video chatting	☐ smart watch		☐ > 3 min.
	☐☐☐☐☐ Taking pictures	☐☐☐☐☐ Email	☐ other		*Average of all occurrences together.
	☐☐☐☐☐ Watching videos	☐☐☐☐☐ Other _____	_____		

Location of Teacher: ☐ front of room ☐ teacher desk ☐ at student tables ☐ at conference table ☐ Other _____ ☐ circulating

Class activity: ☐ whole class ☐ small group ☐ individual ☐ technology required ☐ technology not required

Time	Cyberslacking activities		Devices Used	Observation Method	~ Duration of occurrences
	☐☐☐☐☐ Gaming	☐☐☐☐☐ Facebook	☐ iPad	☐ Direct observation	☐ <1 min.
	☐☐☐☐☐ Twitter	☐☐☐☐☐ Snapchat	☐ Cell phone	☐ Apple Classroom	☐ 1-2 min.
	☐☐☐☐☐ Instagram	☐☐☐☐☐ Texting	☐ computer		☐ 2-3 min.
	☐☐☐☐☐ Surfing internet	☐☐☐☐☐ Video chatting	☐ smart watch		☐ > 3 min.
	☐☐☐☐☐ Taking pictures	☐☐☐☐☐ Email	☐ other		*Average of all occurrences together.
	☐☐☐☐☐ Watching videos	☐☐☐☐☐ Other _____	_____		

Location of Teacher: ☐ front of room ☐ teacher desk ☐ at student tables ☐ at conference table ☐ Other _____ ☐ circulating

Class activity: ☐ whole class ☐ small group ☐ individual ☐ technology required ☐ technology not required

Time	Cyberslacking activities		Devices Used	Observation Method	~ Duration of occurrences
	☐☐☐☐☐ Gaming	☐☐☐☐☐ Facebook	☐ iPad	☐ Direct observation	☐ <1 min.
	☐☐☐☐☐ Twitter	☐☐☐☐☐ Snapchat	☐ Cell phone	☐ Apple Classroom	☐ 1-2 min.
	☐☐☐☐☐ Instagram	☐☐☐☐☐ Texting	☐ computer		☐ 2-3 min.
	☐☐☐☐☐ Surfing internet	☐☐☐☐☐ Video chatting	☐ smart watch		☐ > 3 min.
	☐☐☐☐☐ Taking pictures	☐☐☐☐☐ Email	☐ other		*Average of all occurrences together.
	☐☐☐☐☐ Watching videos	☐☐☐☐☐ Other _____	_____		

Location of Teacher: ☐ front of room ☐ teacher desk ☐ at student tables ☐ at conference table ☐ Other _____ ☐ circulating

Class activity: ☐ whole class ☐ small group ☐ individual ☐ technology required ☐ technology not required

APPENDIX B

CYBERSLACKING SURVEY

I am interested in learning about the cyberslacking activities of high school students. Cyberslacking is participation in off-task activities in which you may engage through the use of technology, such as your iPad, cell phone, smart watch, computer, or other digital devices. There is no right or wrong answer to these questions. I am interested in your honest behaviors, motivations, and perceptions. Your response to this survey will remain anonymous.

1. What is your gender?
   - Female
   - Male
   - Other

2. What is your ethnicity?
   - African American
   - Asian
   - Latin American
   - Native American
   - White
   - Other

3. What is your age?
   - 14
   - 15
   - 16
   - 17
   - 18
   - Over 18

4. What is your grade?
   - 9
   - 10
   - 11
   - 12

Please answer the following questions with regards to *this* 83-minute class period and your activities *today.*

5. How many times did you engage in cyberslacking in *this* class period *today*?
   - 1 time
   - 2 times
   - 3 times
   - 4 times
   - 5 times
   - More than 5 times
   - I did not engage in cyberslacking in class.

6. When you engaged in cyberslacking, about how long did it last each time?
   - Less than 1 minute
   - 1-2 minutes
   - 2-3 minutes
   - More than 3 minutes
   - I did not engage in cyberslacking in class.
7. About how much time **total** do you estimate you spent cyberslacking today in class?
   - Less than 1 minute
   - 1-5 minutes
   - 6-10 minutes
   - 11-15 minutes
   - More than 15 minutes
   - I did not engage in cyberslacking in class.

8. In what kinds of cyberslacking activities did you engage today? Select all that apply.
   - Gaming
   - Facebook
   - Twitter
   - Snapchat
   - Instagram
   - Surfing the internet
   - Texting
   - Face Timing
   - Taking pictures/selfies
   - Personal emails
   - Watching videos
   - Other (please specify) _____
   - I did not engage in cyberslacking in class.

9. Which devices did you use to engage in cyberslacking? Select all that apply.
    - iPad
    - cell phone
    - smart watch
    - computer
    - other (please specify) _____
    - I did not engage in cyberslacking in class.

10. Which network did you use to engage in cyberslacking?
    - School network
    - Cell network
    - My cyberslacking activity did not require network access.
    - I did not engage in cyberslacking in class.

11. Which of the following motivated you to engage in cyberslacking in class? Select all that apply.
    - Boredom
    - Habit
    - Notifications from my device
    - Taking a break from work
    - Personal business that I felt couldn't wait.
    - I feel uncomfortable or anxious without constant access to my personal device and/or apps.
    - I feel as if I'm missing something if I'm not checking my personal device and/or apps.
    - I noticed other students doing it, and it made me feel the need to do the same.
    - Other (please specify) _____
    - I did not engage in cyberslacking in class.

12. Do you feel that your cyberslacking had a ***negative*** effect for ***you*** on any of the following today? Select all that apply.
    - Concentration and attention
    - Class participation
    - Group collaboration
    - Completion of an assignment
    - Quality of an assignment
    - Your teacher's perception of you as a student
    - Your classmates' perception of you as a student
    - Other (please specify) _____
    - Cyberslacking did not have any negative effects for me.
    - I did not engage in cyberslacking in class.

13. Do you feel that your cyberslacking had a ***positive*** effect for ***you*** on any of the following today? Select all that apply.
    - □ Anxiety/stress relief
    - □ Helped maintain a relationship
    - □ Reduced worry
    - □ Improved reputation in front of other students
    - □ Kept me from being overwhelmed by classwork
    - □ Cyberslacking did not have any postive effects for me.
    - □ Other (please specify) _____
    - □ I did not engage in cyberslacking in class.

14. How do you feel about your cyberslacking activities?
    - □ I am good at multitasking, so cyberslacking is no big deal.
    - □ I know it isn't good to cyberslack, but I do it anyway.
    - □ I feel embarrassed when I cyberslack.
    - □ I think I have a problem with technology addiction.
    - □ I did not engage in cyberslacking in class.

15. When you noticed ***other students*** cyberslacking, do you feel that it had a ***negative*** effect for ***you*** on any of the following today? Select all that apply.
    - □ Concentration and attention
    - □ Group collaboration
    - □ Completion of a group assignment
    - □ Quality of a group assignment
    - □ My perception of the person as a student
    - □ My own tendency to cyberslack
    - □ Other (please specify) _____
    - □ Other students cyberslacking did not affect me.
    - □ I did not notice other students cyberslacking.

16. How do you think your or other students' cyberslacking affected your teacher? Select all that apply.
    - □ It hurt her feelings.
    - □ She felt disrespected.
    - □ She felt frustrated by it.
    - □ She felt angry with those who were cyberslacking.
    - □ It made her look at the cyberslackers in a negative light.
    - □ It made her take more time to keep the cyberslackers on task.
    - □ She was impressed at how good the cyberslackers are at multitasking.
    - □ She did not notice the cyberslacking.
    - □ It did not affect her at all.
    - □ I did not engage in or notice other students cyberslacking in class.

APPENDIX C

FOCUS GROUP INTERVIEW PROTOCOL

Introductory Script

To facilitate my note-taking, this discussion will be audio-recorded. Only I will have access to this recording, and once I have transcribed it, it will be destroyed. Your responses will remain confidential, and in the transcription and any future published information, your names will be changed for your privacy. In addition, your participation in this conversation is voluntary, and you may choose not to answer any of the questions and/or stop participation at any point. This interview should last approximately 30 minutes. In the interest of time, it may be necessary to interrupt you in order to move ahead with all of the questions I have planned.

I am interested in learning about high school students' cyberslacking behaviors, motivations, and perceptions. Cyberslacking is the use of technology, such as iPads, cell phones, smart watches, computers, and other digital devices for off-task and non-class related activities, such as texting, gaming, social media, surfing the internet, etc. You were selected to participate in this conversation because I felt that you would give honest, articulate answers and provide information that would be representative of your classmates in general. Please understand that my purpose in this conversation is not to judge you or your experiences as positive, negative, right, or wrong. I am simply trying to learn more about the phenomenon of cyberslacking in high school students.

Does anyone have any questions before we begin?

Questions

1. How do you use technology in your classes?
    a. What kind of freedom or ability do you have to use your personal devices in your classes?

2. How often do you use these devices for cyberslacking during class?
    a. How long does it last when you are off-task with your devices?
    b. How many times in a class period would you say that you cyberslack?

3. When you cyberslack during class, what kinds of things do you do?
    a. What devices do you use to do these activities?
    b. What do you notice your classmates doing?
    c. What devices do you see your classmates use?

4. Tell me about a time when you cyberslacked during class in the past week.
    a. If you didn't cyberslack, tell me about a time you noticed a classmate cyberslacking (no names).
    b. What was going on in the class at the time?
    c. Where was your teacher?
    d. How do you feel this affected the assignment you were supposed to be doing?

5. When you participate in cyberslacking in class, why do you usually do it?
    a. How has the district issuing iPads affected your motivation to cyberslack in class?
    b. What about the relaxed cell phone policy?

6. Tell me about a time when you wanted to participate in cyberslacking, but you didn't.
    a. What was it that stopped you?
    b. How do you decide when it's okay to cyberslack and when it's not a good idea?

7. Some people say that many teenagers have a deep connection with their personal devices that borders on addiction. What do you think about that idea?
    a. Can you give me an example of a personal experience you think is related to technology addiction?
    b. Why do you think this addiction exists or if it doesn't, why is there this perception?

8. What effects do you think cyberslacking has on you academically?
    a. What about on those around you?
    b. If you think it has negative effects, why do you do it?

9. When you think of people who cyberslack, what assumptions do you make about them?
    a. How do you think teachers look at these students?
    b. What do you think about others feeling this way about you when you cyberslack?

Concluding Script

Thank you all for participating and for your honest answers and feelings. I would like to remind you that all information you have shared today will remain confidential, and your names will be changed for the transcript of the discussion and all future publication of this data. Does anyone have any questions or final comments before we conclude?

APPENDIX D

INFORMED CONSENT FORM

January 22, 2019

Dear Parent or Guardian:

I am your child's English 3 HN teacher, Kristy Rykard. I am also a doctoral candidate in the Educational Technology program at the University of South Carolina (USC), Department of Educational Studies under the direction of Dr. Michael M. Grant (michaelmgrant@sc.edu), which requires me to complete a research project. I will present the completed project at the end of my program at USC and may submit my research project for presentation at a professional conference or for publication in a professional journal.

My research project is about the types of off-task behaviors in which students engage during class using technology, including school-issued iPads and personal devices such as cell phones. Off-task behaviors are participating in activities like playing games, texting, looking at social media, surfing the internet, watching videos, shopping online, etc. I am also interested in students' reasons for and perceptions of engaging in these behaviors. During this semester, I will use whole class observations, student surveys, and small group interviews to gather data related to this topic. A sample of all project materials will be available for your review upon request.

The purpose of this letter is to ask for your permission to include data gathered from your child in my proposed research project. Your child will not be named in any material presented or published, and all information will be kept absolutely confidential and anonymous. All data will be stored securely during the study and destroyed upon completion.

Please know that participation is voluntary, and you or your child may choose to opt out at any time. I would appreciate your child's participation in this research, and I will share the results of my research with you at the end of the semester via Schoology. If you have any questions, please feel free to contact me at [redacted]

In addition, questions about your or your child's rights as a research subject may be directed to Lisa Johnson, Assistant Director, Office of Research Compliance, University of South Carolina, 1600 Hampton Street, Suite 414D, Columbia, SC 29208, phone: (803) 777-6670 or email: LisaJ@mailbox.sc.edu.

Please return the attached permission form with your signature by January 25, 2019. Thank you for your help.

Sincerely,

Kristy Rykard
English 3 HN Teacher

Mrs. Rykard,

I understand that you are enrolled in a program that requires a research project that you will present at USC and which could be presented at a professional conference and/or published in a professional journal.

I understand that you are asking for my permission to include my child's data in your research, that my choice to allow my child to participate is voluntary, that I or my child may opt out at any time during the study, and that no child will be named in any resulting presentation or publication.

Please choose one:

_____ I **GIVE** my permission for my child, _____,
to participate in your research during the Spring 2019 semester.

_____ I **DO NOT GIVE** my permission for my child, _____,
to participate in your research during the Spring 2019 semester.

Print Parent or Guardian's Name: _____

Parent or Guardian's **Signature**: _____

Date: _____

APPENDIX E

STUDENT ASSENT FORM

Mrs. Rykard,

I understand that you are enrolled in a program that requires a research project that you will present at USC and which could be presented at a professional conference and/or published in a professional journal.

I understand that you are asking for my agreement to include my data in your research, that my choice to participate is voluntary, that I may opt out at any time during the study, and that I will not be named in any resulting presentation or publication.

Please choose one:

_____ I **AGREE** to participate in your research during the Spring 2019 semester.

_____ I **DO NOT AGREE** to participate in your research during the Spring 2019 semester.

Print Student Name: _____

Student **Signature**: _____

Date: _____